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July 11, 2013

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**Subject: Prospectus
Salt River Mitigation Bank
Bullitt County, Kentucky
Redwing Project No.: 11-068
USACE ID No.: LRL-2012-954-pgj**

Dear Dr. Grace-Jarrett:

On behalf of Flynn Contracting, Redwing Ecological Services, Inc. (Redwing) respectfully presents this Prospectus for the development of the Salt River Mitigation Bank (SRMB) in Bullitt County, Kentucky. The purpose of the project is to provide forested wetland mitigation as compensation for future wetland impacts within the Salt River and Silver-Little Kentucky River watersheds in central Kentucky.

A *Draft Prospectus* was submitted to the U.S. Army Corps of Engineers (USACE) on October 24, 2012, and a site meeting was held with Interagency Review Team (IRT) representatives on November 30, 2012 to review site conditions and proposed mitigation activities. The USACE provided IRT comments on the *Draft Prospectus* and the overall project on December 13, 2012. This *Prospectus* follows the federal guidance *Compensatory Mitigation for Losses of Aquatic Resources: Final Rule* (Thursday, April 10, 2008) and addresses comments provided by the USACE and members of the IRT. We understand that once this *Prospectus* has been determined to be complete, you can proceed with Phase II of mitigation bank approval, which includes a 30-day public comment period, as well as further IRT review.

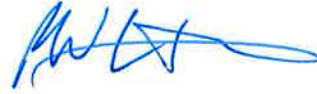
Note that while the original *Draft Prospectus* included two properties, we understand that current USACE/IRT policies require these to be approved individually. Thus, this *Prospectus* addresses only the proposed Moore Site. The Coxco Site may be addressed with a separate Prospectus in the future. Per your request, this Prospectus is being distributed directly to members of the IRT.

We appreciate the opportunity to work with you on this important project and look forward to receiving your comments on this Prospectus. Please call Ron Thomas or Neil Guthals at (502) 625-3009 with any comments/questions during your review.

Sincerely,



Neil A. Guthals
Senior Ecologist



Ronald L. Thomas
Principal
Senior Ecologist

11-068/Reports/Prospectus/SRMB-Prospectus

cc: Ms. Jennifer Garland – U.S. Fish and Wildlife Service
Mr. Duncan Powell – U.S. Environmental Protection Agency
Ms. Barbara Scott – Kentucky Division of Water
Mr. Joseph Zimmerman – Kentucky Department of Fish and Wildlife Resources
Mr. Jim Rice – Flynn Contracting



PROSPECTUS

SALT RIVER MITIGATION BANK

Bullitt County, Kentucky

Prepared for:

U.S. ARMY CORPS OF ENGINEERS
LOUISVILLE DISTRICT

July 2013

PROSPECTUS
SALT RIVER MITIGATION BANK
Bullitt County, Kentucky


Prepared for:
U.S. ARMY CORPS OF ENGINEERS
LOUISVILLE DISTRICT

Submitted by:
FLYNN CONTRACTING

Prepared by:
Redwing Ecological Services, Inc.
Louisville, Kentucky



Neil A. Guthals
Senior Ecologist



Ronald L. Thomas
Principal
Senior Ecologist

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EXECUTIVE SUMMARY

On behalf of Flynn Contracting, Redwing Ecological Services, Inc. is pleased to submit this Prospectus to outline an approach for the development of the Salt River Mitigation Bank (SRMB) located along the Salt River in Bullitt County, Kentucky. The 47.0-acre site is located within the 100-year floodplain on the south side (left descending bank) of the Salt River, approximately one mile west of Shepherdsville, Kentucky. The site currently consists of active cropland and is bounded by existing cropland to the north, west and south, and a Salt River wooded riparian zone on the east.

The purpose of this Prospectus is to formally introduce the proposed project and present required general background information for evaluation by the U.S. Army Corps of Engineers (USACE) and the Interagency Review Team (IRT). This Prospectus follows the federal guidance *Compensatory Mitigation for Losses of Aquatic Resources: Final Rule* dated April 10, 2008 [Section 332.8(d)(2)]. Components of the Prospectus include:

- Project Introduction and Objectives
- Establishment of the Bank
- Operation of the Bank
- Service Area
- Need and Feasibility
- Ownership and Long-term Management
- Qualifications of the Sponsor
- Ecological Suitability
- Water Rights and Long-term Sustainability

This Prospectus provides guidance for the establishment of the SRMB, which will provide important wetland mitigation within the Salt River Basin of central Kentucky. The SRMB will provide up-front, in-kind mitigation for future unavoidable wetland impacts in a diverse natural areas complex that can provide significantly greater functions and values than would a number of smaller, separate mitigation projects.

Development of the SRMB will produce approximately 47.8 acres of wetland credits that will be available for sale to meet compensatory mitigation requirements within the established service area, which includes the Salt River (05140102) and the Silver-Little Kentucky River (05140101) hydrologic unit codes (HUC). The SRMB will significantly increase habitat diversity and wetland functions within the existing farm fields and will serve as an important natural area, with connections to the adjacent riparian corridor along the Salt River and other nearby mitigation areas.

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1.0 INTRODUCTION AND OBJECTIVES

On behalf of Flynn Contracting (Flynn), Redwing Ecological Services, Inc. (Redwing) is pleased to present this Prospectus for the establishment of the Salt River Mitigation Bank (SRMB), which will provide compensation for future wetland impacts within the Salt River Basin of central Kentucky. This Prospectus is being submitted to the U.S. Army Corps of Engineers (USACE) Louisville District and the Interagency Review Team (IRT) for review and comment. The IRT is chaired by the USACE Louisville District, and includes representatives from the U.S. Fish and Wildlife Service (USFWS), the Kentucky Division of Water (KDOW), the Kentucky Department of Fish and Wildlife Resources (KDFWR), and the U.S. Environmental Protection Agency (USEPA).

This Prospectus has been prepared in accordance with the *Compensatory Mitigation for Losses of Aquatic Resources: Final Rule*, as published in the Federal Register on April 10, 2008. As defined in the Final Rule, the benefit of wetland mitigation banks is their ability to help reduce risk and uncertainty, as well as temporal loss, of resource function and services (CFR 332.3 b). As mitigation bank credits are not released for debiting until specific milestones associated with the mitigation bank site's protection and development are achieved, the use of mitigation bank credits can also help reduce risk that mitigation will not be fully successful (CFR 332.3 b).

The purpose of this document is to further refine an approach for successful establishment and operation of the proposed SRMB. Components of the Prospectus include:

- Project Introduction and Objectives
- Establishment of the Bank
- Operation of the Bank
- Service Area
- Need and Feasibility
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The location of this property is ecologically significant due to its presence within a broad meander bend of the Salt River and the cumulative habitat benefits it provides in conjunction with the existing riparian corridor along Salt River and the Shepherds Crossing wetland and open water mitigation complex located across the Salt River (Figures 1 and 2). This restoration project is also important due to the historically high level of disturbance to this portion of the Salt River Basin from

deforestation, stream channelization, and conversion of forested wetlands to agricultural uses and development.

The goal of the SRMB is to restore a diverse forested wetland complex within the Salt River floodplain that will provide mitigation credits to be used as compensation for lost wetland functions and values within the Salt River Basin region. The project will provide important floodflow attenuation and water quality improvement, as well as significantly enhanced wildlife and aquatic habitat, by transforming a highly disturbed agricultural setting into a diverse wetland complex. The aerial photograph presented in Figure 2 illustrates the highly disturbed conditions on the site and adjacent properties resulting from agricultural and residential/commercial development activity.

The goal of wetland restoration will be met through two objectives. The first is to restore a hydrologic regime more closely associated with wetland forests that would have been present on site prior to agricultural activity, which included clearing, ditching, and filling of historic wetlands. The proposed hydrologic regime for the SRMB is a temporarily to seasonally flooded system (from Larson et al. 1981 and Cowardin et al. 1979). Flooding frequency for this water regime ranges from 11 to 100 years per 100 years with a flooding duration from 2% to 25% or more of the growing season. The National Wetland Inventory map (Figure 3) identifies this hydrologic regime in the vicinity of the proposed bank site.

The second objective is to revegetate the site with native wetland forest trees and shrubs. Successful forest establishment will be ensured through selection of appropriate species to match site conditions, planting by experienced personnel, and management via a detailed maintenance program to reduce competition and encourage growth of planted species and desirable volunteers.

Flynn has executed and recorded easements for the mitigation property to document its availability for wetland mitigation development and preservation in perpetuity. These documents, provided in Appendix A, include: *Wetlands Mitigation Easement* and *Declaration of Restrictive Covenants For Conservation*. The Declaration was based on language in example documents approved by the USACE and KDOW. It was recorded at this early stage in the bank approval process to ensure that the site was protected as a condition of the overall easement agreement.

2.0 ESTABLISHMENT OF THE BANK

This section outlines the construction/development activities required for establishment of the proposed SRMB in terms of existing conditions, work plan, maintenance plan, performance standards, and monitoring plan.

2.1 EXISTING CONDITIONS

The proposed SRMB site currently consists of actively cropped agricultural fields that have been rotated between corn and soybeans for many decades. A detailed description of current conditions is provided in Section 8; however, key features of the site related to development of the proposed work plan are depicted in Figure 4 and include the presence of hydric soil over the majority of the site, a relatively flat topography, the presence of man-made drainage features that promote dewatering of the site, and 0.467 acre of existing wetland in portions of the created drainage ditches in the central portion of the site.

2.2 WORK PLAN

The mitigation goal is to restore a rich, diverse forested wetland complex on the Salt River floodplain. The site currently consists of active cropland located within a broad meander bend of the Salt River and bounded by agricultural land to the north, west and south, and a riparian zone along the Salt River to the east (Figure 2).

Implementation of the mitigation plan will involve the restoration of both wetland hydrology and vegetation to the site. Wetland hydrology will be restored through a combination of excavating and grading activities (Figure 5). Hydrophytic vegetation restoration will include sowing native wetland seed, planting native tree/shrub species, and natural establishment of volunteer native species. Proposed mitigation activities are described below in terms of grading/construction, planting, and schedule.

2.2.1 Grading and Construction

Standard grading/construction techniques will be used to restore appropriate hydrologic conditions to support forested wetland restoration (Figure 5). Key activities include leveling of previously filled/ditched areas, construction of shallow depressions/scrapes, establishing a perimeter buffer, and employing best management construction practices, which are discussed further below.

Leveling of Filled/Ditched Areas: Ditch excavation during past agricultural drainage activities has resulted in defined drainages directing water off site to the south, as well as the deposition of material between the two parallel ditches in the central portion of the site. This excess material is currently one to four feet higher than adjacent field elevations (Figure 5). This deposited material will be removed and utilized to fill in the constructed drainage ditches so that the central and south-central portions of the site are returned to a relatively even grade and that surface water is no longer transported off site to the south.

Depression/Scrape Construction: Seven depressions, totaling approximately six acres will be excavated across the site to help restore wetland hydrology by increasing water retention (Figure 5). The depressions/scrapes will be approximately 6 to 12 inches deep with very gradual (10:1) sideslopes.

Buffer Establishment: In order to protect the integrity of the restored wetland, a permanent buffer will be established around the perimeter of the site. The purposes of the buffer will be to inhibit physical intrusions into the site, and minimize the potential effects of herbicide drift from adjacent agricultural fields. The buffer will be comprised of a 12 to 18-inch high berm approximately 12 feet wide (including a four to six-foot wide flat top and 3:1 sideslopes). This buffer, in conjunction with dense tree/shrub planting, a perimeter fence and signage, will help discourage unwarranted access to the site and will limit effects of herbicide drift.

Best Management Practices: Erosion/sedimentation impacts will be monitored during the implementation of the mitigation site and will include the use of Best Management Practices (BMPs), such as silt fencing, straw bales, seeding/mulching exposed surfaces, and timing of construction.

2.2.2 Planting

Planting will be performed to stabilize exposed soil surfaces following grading activities and to restore a native forested wetland community across the site. Planting activities will include cover seeding, tree/shrub planting, and invasive exotic species control.

Cover Seeding: Depending on site conditions, one or more applications of a glyphosate herbicide may be used to help minimize the spread of undesirable, more aggressive species and to prepare the site for seeding and tree planting. Herbicide applications will be completed using manufacturer specifications. Following herbicide applications, the site will be disked prior to seeding. After the ground preparation is complete, the mitigation area will be seeded with a cover crop of annual rye (or equivalent) in late summer/early fall at a minimum rate of 30 pounds per acre. This cover crop will help stabilize the soil surface and limit the establishment of weedy species through the end of the growing season. In the early dormant season (December) a native seed mix comprised primarily of wetland grasses, sedges, and rushes will be sown across the mitigation area at a minimum rate of 20 pounds per acre. The wetland groundcover mix is provided in Table 1. The proposed upland buffer seed mix for the berm is provided on Table 2. The berm will also be sown with a cover crop immediately after the construction and with the native mix during the dormant period at a minimum rate of 30 and 20 pounds per acre, respectively.

Tree/Shrub Planting: In the first dormant period (November/December) following site grading and ground preparation, the wetland mitigation area will be planted with three-gallon containerized tree/shrub saplings. Native trees/shrubs will be planted at a minimum

rate of 60 stems per acre (approximately 27-foot spacing). Table 3 presents the species and quantities to be planted in the forested wetland area and Table 4 includes species to be planted within the perimeter buffer. The buffer species have been selected based on the ability to grow quickly and densely in order to physically screen the site from potential drift of agricultural chemicals and unwarranted access.

Invasive Exotic Plant Control: No evidence of narrow-leaved cattail (*Typha angustifolia*) or common reed (*Phragmites australis*) has been observed on or near the mitigation site; however, Johnson grass (*Sorghum halepense*) was observed along field edges and reed canary grass (*Phalaris arundinacea*) is present in one man-made ditch (Wetland 3). Measures to avoid importing exotic species include using topsoil present at the mitigation site (not importing from other unknown wetland sites that could have exotic species root stocks or seeds) and purchasing seed mixtures and shrub/tree saplings from reputable native plant nurseries that control for exotics in their seed mixes and packing materials. Management in areas that may develop significant populations of these exotic species will likely include a combination of herbicide treatment and mechanical removal.

2.2.3 Schedule

Implementation of the SRMB work plan will be initiated in the first appropriate season following approval of the bank instrument and sale of the first wetland credit. The first phase of the implementation will be the grading/construction activities, which will be scheduled for the summer/fall in order to be completed in drier conditions. The second phase of implementation will be revegetation of the site through seeding of an annual groundcover immediately following completion of grading activities (August/September), seeding of a native wetland and upland groundcover mixes in the following dormant season (December/January), and planting of native tree/shrub species in the early dormant season (November/December).

2.3 MAINTENANCE PLAN

The stability and successful development of the site will be ensured through implementation of a defined maintenance plan. Maintenance activities may include regrading to repair erosional areas; reseeding of bare, unvegetated portions of the site; replanting trees lost to mortality; and herbicide treatment of invasive species becoming established on the site. In addition, maintenance may include mowing or herbicide treatments around planted trees/shrubs to reduce weedy competition and the application of fertilizer to promote planted tree/shrub growth. Unwanted animal disturbances, such as those caused by beaver, deer, or small mammals, will be monitored. Hunting or trapping may be required to prevent damage to planted vegetation or to overall site integrity. Any human disturbance that may affect the success of the bank (such as trash dumping, vegetation clearing or ATV trails) will also be monitored. Quarterly maintenance visits, in addition to regular monitoring visits, will be conducted to provide for early problem detection.

2.4 PERFORMANCE STANDARDS

Discrete, measurable performance standards are proposed to accurately document the site's development into a forested wetland complex. These performance standards focus on the restoration of appropriate hydrologic conditions and vegetation communities. They directly support the project goals and can be objectively measured by the proposed monitoring plan. Monitoring is proposed over a ten-year period.

Performance standards include:

- **Hydrology:** Inundation or soil saturation at or within 12 inches of the ground surface for a minimum of 14 consecutive days (at a 50% or higher probability) during the growing season, as measured in permanent groundwater monitoring wells and visual observations, as appropriate.
- **Woody Vegetation:** Planted trees must survive at a 90% level (based on planting rate of 60 trees/acre) over the ten-year monitoring period, as measured in permanent sampling plots. Desirable volunteer trees/shrubs (defined as those with a Coefficient of Conservatism of 3 or greater) will be allowed to compensate for planted trees at a 5:1 ratio (five volunteers for one planted).
- **Vegetative Cover:** Total vegetative cover must be a minimum of 30% in the first year of monitoring, increasing by 5% per year to 75% total vegetative cover in the tenth year of monitoring, as measured in permanent meter-square plots.
- **Wetland Vegetation:** Greater than 30% of the vegetative cover in the wetland mitigation area must be wetland species (FAC, FACW, or OBL) in the first year of monitoring, increasing by 5% per year to 50% by the fifth through the tenth year of monitoring, as measured in permanent meter-square plots.
- **Invasive Species:** Total coverage by any one invasive/exotic species must be less than 30% of total vegetative cover in the first year of monitoring, decreasing by 5% per year to a maximum of 5% by the sixth through the tenth year of monitoring, as measured in permanent meter-square plots and qualitative visual observations. Invasive species are defined as those on the Kentucky Exotic Pest Plant Council's (KEPPC's) Exotic Invasive Plant Lists 1 and 2.
- **Vegetation Diversity:** No one species shall comprise greater than 65% of the total cover in the first year of monitoring, decreasing by 5% every other year to a minimum of 20% in Year 10, as measured in permanent meter-square plots.
- **Wetland Size:** The project shall result in the restoration of 45.5 acres of forested wetland, as measured by a delineation and GPS survey during the final year of monitoring. The delineation will follow current methodologies (at the time of bank approval) and utilize monitoring data, as appropriate.
- **Site Stability:** The wetland and perimeter buffer areas of the SRMB site shall exhibit stable surface conditions as documented by qualitative observations of undue erosion or evidence of unwarranted encroachment, such as recreational vehicle trails or trash dumping.

2.5 MONITORING PLAN

The success of mitigation efforts will be determined by following an established monitoring protocol that ensures project goals and objectives are met. The monitoring plan has been designed to document the restoration/establishment of wetland functions and values in the mitigation area. Monitoring will be conducted for a minimum of ten years following full implementation of the mitigation plan. Monitoring efforts will include detailed measurements of hydrology, vegetation composition, and overall site stability, as well as annual reporting.

2.5.1 Hydrology

Hydrology monitoring will include a combination of visual observations along with data collection using groundwater monitoring wells. Visual observations will be made during regular site visits in the early portion of the growing season. Evidence of inundation, saturated soil, drift lines, sedimentation, and other indicators of wetland hydrology will be noted. Quantitative hydrology monitoring will entail the use of a minimum of five data logging groundwater monitoring wells that record water levels twice daily throughout the year. Rainfall and river gauge data will also be used to correlate with measured/observed water levels on the site. Three groundwater monitoring wells were installed in the spring of 2012 to begin collecting hydrology data for the site. Hydrology data collected through June 2013 are discussed in Section 8.3.

2.5.2 Vegetation

Vegetation establishment will be monitored both quantitatively and qualitatively to objectively determine whether or not specific performance standards have been met. Qualitative monitoring will involve compiling lists of all species present on site during various visits throughout the growing season.

Woody vegetation within the wetland forest habitat will be sampled in permanent one-tenth-acre circular plots for the planted container trees/ shrubs and volunteer trees/shrubs.

Herbaceous vegetation will be measured in permanent one-meter-square plots throughout the mitigation area. All species present within each plot will be identified, to the extent possible, and assigned a standard Daubenmire percent cover class (0-1; 1-5; 5-25; 25-50; 50-75; 75-95; 95–100%). The total vegetative cover of each plot will also be recorded.

The quantitative monitoring will involve establishing 20 to 30 plot centers within the mitigation area. These points will be utilized as the center point for the one-tenth-acre tree/shrub plots, as well as a corner of the meter-square herbaceous cover plot. All plots will be marked with stakes and surveyed.

2.5.3 Site Stability

The site will be walked periodically throughout the year to document the stability of the site in terms of ground surface cover, maintained berms, and human or animal disturbance. Evidence of undue erosion, berm instability, disturbance from animals (beaver, deer), recreational vehicle traffic, or trash/debris dumping will be noted and addressed through the maintenance plan. The results of this qualitative monitoring will also be presented in the annual reports.

2.5.4 Reporting

Mitigation monitoring will be completed annually by early to mid fall. Annual progress reports will be prepared which summarize the field data collected and note any significant trends as well as summarize whether or not specific performance standards have been met. These reports will be submitted to the USACE by December 31 of each monitoring year for review and distribution to the IRT, as appropriate. Following the tenth year of monitoring, the final annual monitoring report will document whether the site has achieved the established project performance standards and discuss whether or not additional monitoring and/or plan modification are required. The annual monitoring reports will be submitted separate from the annual bank accounting reports, although the results of the monitoring will help determine credit release and overall bank status.

3.0 OPERATION OF THE BANK

This section outlines the methods and procedures for bank operation in terms of the conditions for wetland bank use; determination of bank credits; a credit release schedule; bank accounting procedures; and financial assurances.

3.1 CONDITIONS FOR WETLAND BANK USE

The proposed SRMB will be established to sell wetland mitigation credits to approved entities in order to fulfill their wetland mitigation needs. Based on federal mitigation guidance, the USACE will consider mitigation banking as the preferred form of mitigation to compensate for unavoidable wetland impacts. The inclusion of mitigation bank credit purchase as a part of a permit application does not guarantee authorization of the project. Mitigation banking can only be considered within the constraints of meeting Clean Water Act Section 404(b)(1) guidelines. The constraints for Individual Section 404 permits include that there be a documented need for the proposed project, that the project represents the least environmentally damaging practicable alternative, and that water/wetland avoidance and minimization requirements have been satisfied. Although Nationwide Permits do not require needs and alternatives analyses, they do require appropriate mitigation sequencing.

3.2 DETERMINATION OF CREDITS

A mitigation plan for the SRMB (Section 2.1.1 and Figures 3 and 4) entails the restoration of forested wetland habitat along with establishment of an upland buffer on the 47.0-acre site, as summarized below.

Mitigation Credit Summary

MITIGATION TYPE	SIZE	RATIO	CREDIT
Forested Wetland Re-establishment	45.0 acres	1.0	45.0 acres
Forested Wetland Rehabilitation (existing highly disturbed wetlands)	0.5 acre	1.0	0.5 acre
Forested Upland Buffer	1.5 acre	NA	-0-
Transfer to Conservation Organization	—	5%	2.3 acres
TOTAL	47.0 acres		47.8 acres

Thus, the project will result in 45.5 acres of forested wetland habitat. As the entire mitigation site has been actively cultivated and/or highly disturbed over the decades, all restoration activity (re-establishment and rehabilitation) will result in an acre for acre replacement of agricultural fields/ditches with forested wetland habitat. Assuming full build-out of the project and successful completion of all aspects of the mitigation (including property transfer to a conservation organization), a total of 47.8 acres of wetland mitigation credit will be available for sale, based upon the credit release schedule presented below.

3.3 CREDIT RELEASE SCHEDULE

The credit release schedule for the SRMB has been established to provide: 1) initial capital for beginning the implementation of the bank; 2) incremental credit release linked to the meeting of specific interim performance standards; and 3) a reserve of credits that are not released until all performance standards are met and the site is released from further monitoring. The proposed wetland credit release schedule for the SRMB is as follows, assuming milestones are met as planned and that a total of 47.8 wetland credits will ultimately be available.

Credit Release Schedule

MILESTONE	% RELEASED	CREDITS RELEASED	CUMULATIVE CREDITS AVAILABLE
Final Instrument Approval	15%	6.9	6.9
Completed Implementation *	10%	4.6	11.5
Successful Completion of Year 2 Monitoring	15%	6.8	18.3
Successful Completion of Year 4 Monitoring	15%	6.8	25.1
Successful Completion of Year 6 Monitoring	15%	6.8	31.9
Successful Completion of Year 8 Monitoring	15%	6.8	38.7
Successful Completion of Year 10 Monitoring	15%	6.8	45.5
TOTAL	100%	45.5	45.5
Transfer to Conservation Organization	5%	2.3	47.8
TOTAL		47.8	47.8

* includes grading/construction, planting, and recording of Deed Restriction

Credit release will occur based on the attainment of performance standards. If a majority, but not all, of the performance standards for a given year are met, the USACE may, on a case-by-case basis, allow a proportional credit release. Successful completion of Year 10 monitoring also requires acreage/credit adjustment based on a final delineation of wetland boundaries and final release from monitoring by the USACE. Credit release after implementation is also contingent upon the completion of real estate provisions and an as-built survey, as described below.

Real Estate Provisions: The sponsor shall record a restrictive covenant, or other acceptable real estate instrument, on the bank land and provide a copy to the IRT prior to the sale of any credits in favor of any permittee. If a non-profit conservation organization or government agency with a conservation mission is named as the easement holder of an approved conservation easement or is transferred ownership of the property, subject to IRT approval acting through the USACE, credit composition will be revised so that 5% less land area is required to generate a mitigation credit than would be required under a restrictive covenant. Thus, under this scenario an additional 2.3 wetland credits (5% of 45.5) would be available for sale. A copy of the recorded property transfer or easement document shall be provided to the USACE within 30 days of recordation. A *Declaration of Restrictive Covenants for Conservation* for the SRMB site has been executed and recorded at the Bullitt County Clerks office (Appendix A).

As-Built Report: The sponsor agrees to submit an as-built report to the USACE, as chair of the IRT, within 60 days following the completion of the grading/construction activities. The as-built report will describe in detail any substantial deviation from the work plan and shall contain a survey showing finished grades.

3.4 BANK ACCOUNTING PROCEDURES

Flynn Contracting, as the sponsor for the SRMR, has ultimate responsibility for the establishment and maintenance of all necessary records concerning the status of bank implementation and monitoring, the credit/debit balance, the types of wetland impacted by projects using the bank, and other pertinent information related to the ongoing bank operations.

Bank accounting will entail the reporting of credit sales on both a transaction and an annual basis. Each approved debit transaction will be reported in writing to the USACE when it occurs. The notification will include the number and type of credits utilized, the purchaser of the credits, the identification of the project using the credits (including USACE and KDOW project numbers, as appropriate), and the number of credits remaining. Annual bank accounting reports will include detailed accounting of the credit/debit balance for the bank in the form of: project by project listing of wetland credits debited; a year-end balance of credits used and remaining credits available; a listing of additional credits released due to meeting of required milestones; and any other pertinent information related to on-going bank operations. Annual bank accounting reports will be submitted by December 31 of each year from the time the bank instrument is approved, until the final credit has been sold. These accounting reports, while related to technical bank performance, will be submitted separately from the required annual mitigation monitoring reports.

3.5 FINANCIAL ASSURANCES

The sponsor agrees to provide adequate financial assurances, sufficient to cover the release of credits for the work described in the establishment of the bank (Section 2.1), to ensure that wetland

acreage would be restored on site in the event of a default. The sponsor will establish an escrow account with a law firm/title company/surety company/insurance company who will act as specified under the approved mitigation banking Instrument.

The Mitigation Rule states that the level of financial assurances is to be based on the size and complexity of the mitigation project, the degree of completion, the likelihood for success, and the past performance of the sponsor. This project is characterized by a low complexity and a high likelihood for success, based on the presence of hydric soil across the site, the relatively minor amount of grading/construction required to implement the plan, and the extensive experience of the Flynn/Redwing team in planning, implementing and monitoring wetland mitigation projects across the state (including a number in the Salt River Basin). Thus, the per-credit set-aside for the two escrow funds outlined below, which is similar to assurances provided on previously approved bank sites in the region, will be sufficient to ensure the successful completion of the required amount of mitigation based on credit sales at the time of default.

The financial assurances provided by the sponsor include the following: 1) the establishment of maintenance and monitoring fund; 2) the establishment of a catastrophic event and long-term management fund; and 3) the identification of a long-term steward. Each of these assurances is further described in the sections below.

Maintenance and Monitoring Fund: A total of 8% of all cash proceeds from all credit transactions occurring prior to successful completion of all implementation and monitoring activities shall be placed in a separate escrow account to be called the Maintenance and Monitoring Fund. These funds shall be placed in an interest bearing account at a federally insured financial institution. If the required monitoring or maintenance is not conducted as specified, then the IRT, acting through the chair, shall request release of funds to an IRT agency or its designee from this account in an amount sufficient to cover the costs of the necessary monitoring or maintenance activities. Funds from this financial assurance account will be released by the IRT to the sponsor upon receipt of the final monitoring report that demonstrates that the sponsor has successfully mitigated sufficient acreage to offset the release of credits.

Catastrophic Event and Long-Term Management Fund: A total of 2% of all cash proceeds from all credit transactions shall be placed within a separate escrow account to be called the Catastrophic Event and Long-Term Management Fund. These funds shall be placed in an interest bearing account at a federally insured financial institution. Should a catastrophic event occur, as determined by the IRT, that effects the long term viability of the bank, the IRT can cause the appropriate corrections to occur by either: (i) directing the sponsor, if said event occurs while the sponsor's maintenance period is in effect, to implement corrections which will be funded by a release of said funds, (ii) recommending the escrow agent release the necessary funds to the long-term steward of the bank to make necessary corrections and/or manage the property, or (iii) recommending the escrow agent release the funds to an agency represented on the IRT or its designee to effect the necessary corrections. Any unspent funds shall remain in this fund if not utilized to repair the bank from a catastrophic event or for long-term management of the bank site. This Catastrophic Event and Long-Term Management Fund will be transferred to the designated

long-term steward of the land for use in addressing future catastrophic events or land management requirements once all monitoring has been completed and all credits from the bank have been debited.

Damages from the catastrophic events identified below are permitted to be repaired using the principal and interest accumulated in the Catastrophic Event and Long Term Management Fund by either the sponsor or the long-term steward of the land with the funds being provided to whichever entity has title to the property at the time of the catastrophic event and has the responsibility to repair the resulting damages. Expenditures shall be approved by the IRT if the damage occurs within the ten-year monitoring period associated with bank establishment. If the damage occurs after the establishment and monitoring period, the long-term steward of the land shall approve expenditures to address the following issues:

1. Floods greater than a presently projected 100-year flood, where “flood” refers to a runoff event;
2. Tornado of F2 or greater magnitude on the Fujitsu scale;
3. Earthquakes of a magnitude greater than 6.5 on the Richter Scale;
4. Extreme drought (Drought Monitor Classification of D3 or greater or Palmer Drought Index of – 4.0 or less) if such even has broad regional impact and is not endemic to the bank and its immediate locale;
5. Drought, fire, or damage from insect, animal, or invasive plants to planted vegetation that occurs across the majority of the site such that the vegetation fails to achieve the performance standard;
6. Breach of any berms, embankments or spillway and/or damage to outlet structures from a 100-year or greater magnitude storm event; and
7. Any long-term maintenance requirements necessitated as specified here. Long-term (past 5 years) maintenance requirements will be determined on a site-specific basis. However, any such activities shall be the responsibility of the long-term steward. The Catastrophic Event and Long-Term Management Fund shall provide a funding source for any significant repairs necessitated by natural disasters or other catastrophic events, as defined above, that the sponsor or long-term steward must address.

Long-Term Steward: The sponsor may assign its long-term management and maintenance responsibilities to a third party at the end of the active monitoring period, which will then serve as the long-term steward in place of the sponsor. The identity of the assignee and the terms of the long-term management and maintenance agreement between the sponsor and the assignee must be approved by the USACE, following consultation with the IRT, in advance of assignment. Upon approval by the IRT and bank closure, the sponsor intends to transfer the entire Catastrophic Event and Long-Term Management Fund to the intended long-term steward of the bank land. At this time the long-term steward shall be responsible for managing the bank in perpetuity in accordance with the terms of the Long-Term Management and Maintenance Plan and the associated real-estate provisions, including the terms of the recorded restrictive covenant(s) or other acceptable real estate instruments for preserving the bank in perpetuity. If the long-term steward or its successor declines to accept stewardship responsibility for the bank and the associated Long-Term Management Fund, the sponsor shall then transfer stewardship responsibility for the bank and the associated Long-Term Management Fund to a public

resource agency, or non-profit agency engaged in conservation activities, subject to written approval of the receiving entity by the IRT. If no public resource agency, or non-profit agency engaged in conservation activities, is willing to accept management responsibility for the bank land(s), then the sponsor will be the long-term steward until another party acceptable to the IRT agrees to accept a management responsibility for the bank. The sponsor may assign responsibility for the Long-Term Management and Maintenance Plan to a long-term steward, the assignment agreement will reflect that the assignee has assumed the obligation, owed to the IRT, of accomplishing the Long-Term Management and Maintenance Plan.

In exchange for the assignee's promise to implement the Long-Term Management and Maintenance Plan, contemporaneously with the assignment of long-term management and maintenance responsibilities, the sponsor will direct disbursement of the full amount of funds in the Catastrophic Event and Long-Term Management Fund to the long-term steward. In the event that the responsibility for executing the Long-Term Management and Maintenance Plan is not assigned to a third-party assignee, upon closure of the bank, the full amount of funds in the Catastrophic Event and Long-term Management Fund will be disbursed to the sponsor.

4.0 SERVICE AREA

The proposed service area for the SRMB will be the Salt River (HUC 05140102) and Silver-Little Kentucky River (HUC 05140101) watersheds located in the northern portion of the overall Salt River Basin in central Kentucky. The service area is depicted on Figure 6 and includes all or portions of the counties of Anderson, Boyle, Bullitt, Carroll, Hardin, Henry, Jefferson, Mercer, Nelson, Oldham, Shelby, Spencer, and Trimble. The primary population and development centers in this region are Louisville, Shepherdsville, Mt. Washington, Shelbyville, and LaGrange along with shipping facilities along the Ohio River.

The application of this service area is appropriately sized and geographically consistent to ensure that aquatic resources provided by the bank will effectively compensate for the adverse environmental impacts across the entire service area. The service area extends approximately 50 miles east-west and 70 miles north-south and includes the Interior Plateau Ecoregion. It includes the Bluegrass and Mississippian Plateau physiographic regions of Kentucky. The Kentucky Geological Survey notes that the Bluegrass Region's Outer Bluegrass is characterized by deeper valleys with little flat land; that the Bluegrass Region's Knobs consist of hundreds of isolated, steep sloping hills; and that the Mississippian Plateau's Muldrough Hills area is a ring of continuous hills. These regions contain many streams, sinkholes, springs, and caves due to the manner in which underlying limestone has been weathered (<http://www.uky.edu/KGS/geoky/regionbluegrass.htm>).

5.0 GENERAL NEED AND TECHNICAL FEASIBILITY FOR THE BANK

One of the most important factors in selection of the SRMB site was the technical feasibility of restoring forested wetland habitat, which the site likely supported prior to being put into agricultural production. As discussed in more detail in the following section, the majority of the site is underlain by hydric soils and herbaceous/shrub wetland vegetation is present in many non-cropped portions of the site. The mitigation effort is focused on restoring native wetland vegetation, which can be accomplished without elaborate technical assessment or design. Thus, wetlands can be restored/established on the site with a relatively straightforward approach and a high expectation for success.

Based on a review of recent 404 permit applications, available credits from existing banks in the region, and initial discussions with the USACE, there appears to be a need for forested wetland mitigation credits within the service area. Development activities related to residential housing, commercial ventures, and industrial expansion are increasing within the service area and many require compensatory mitigation. A mitigation bank would provide project management benefits to developers for efficient handling of mitigation needs, as well as the ecological benefits of increasing wetland habitat within a larger natural areas complex.

Construction of a mitigation bank on this property is technically feasible. The site can be accessed via a farm road from Tecumseh Court to the south. The existing soil and hydrology characteristics of the site are conducive to the restoration of wetland conditions with relatively minor grading adjustments to reverse previous agricultural drainage efforts. Existing site conditions are discussed further under in Section 6.0. Native groundcover seeding and tree/shrub plantings along with natural revegetation from adjacent bottomland forests will complete the restoration of forested wetlands.

6.0 OWNERSHIP AND LONG-TERM MANAGEMENT

The sponsor of the WKWMB-2 is:

Flynn Contracting
c/o Mr. Jim Rice
1213 Outer Loop
Louisville, KY 40219
(502) 364-9100
jrice@flynnbrothers.com

The bank will be preserved in perpetuity through the recorded *Declaration of Restrictive Covenants for Conservation* (Appendix A). The long-term management of the property will be ensured through property transfer to a Long-Term Steward or third-party conservation entity who is active in the area, after all mitigation banking requirements are met.

Although Flynn Contracting anticipates transferring ownership of the property to a Long-Term Steward or other acceptable conservation organization at bank closure (release from monitoring and completion of credit sales), they have placed a permanent deed restriction on the site as part of their easement agreement with the property owner and to ensure the integrity of the property throughout the bank approval process. The Deed Restriction is attached as Appendix A. It follows the “Model Conservation Easement” distributed by the Kentucky Division of Water (KDOW) and USACE.

A Long-Term Management and Maintenance Plan will be prepared by the end of the first year of monitoring and will contain specific objectives that address the Long-Term Management of the bank site. A primary goal of the bank is to create self-sustaining natural forested wetland system with minimal human intervention, including long-term site maintenance. Natural changes to the vegetative community, other than changes caused by non-native/invasive species, which occur after bank performance standards have been met are not expected to require corrective action.

The Long-Term Management and Maintenance Plan shall include the following items, as appropriate:

1. Periodic patrols of the bank site for signs of trespass and vandalism. Maintenance will include reasonable actions to deter trespass (i.e. mark property boundaries and post “No Trespassing” signs) and repair vandalized bank features (i.e. collect and dispose of rubbish and accumulated debris).
2. Monitoring the condition of structural elements and facilities of the bank site, such as signage, fencing, roads and trails. The Long-Term Management and Maintenance Plan shall include provisions to maintain and repair these improvements as necessary to achieve the objectives of the bank and comply with the provisions of the real estate instrument

providing protection for the site. Improvements (such as access roads, berms, water control structures, etc.) that are no longer needed to facilitate or protect the ecological function of the bank site may be removed or abandoned if consistent with the terms of the conditions of the recorded real estate instrument.

3. Inspection of the bank site annually to locate invasive species. Should invasive plant species become established/spread beyond the limits stated in the performance standards, the Long-Term Steward shall propose a control method to the IRT for approval.
4. Funds from the Catastrophic Event and Long-Term Management Fund may be used for provisions 1 through 3 above. Upon execution of a Long-Term Management and Maintenance Agreement, the transfer of the contents of the Catastrophic Event and Long-Term Management Fund, the transfer of management responsibility for the bank land to the Long-Term Steward, and upon satisfaction of the remaining requirements for bank closure, the Sponsor shall be relieved of all further Long-Term Management and Maintenance responsibilities.

At that time, the proposed Long-Term Steward shall be responsible for managing the bank in perpetuity in accordance with the terms of the Long-Term Management Plan and the real estate provisions, including the terms of the associated real estate instrument(s). If the proposed Long-Term Steward or its successor declines to accept stewardship responsibility for the bank and for the associated Long-Term Management Fund may be transferred to a public resource agency, or non-profit agency engaged in conservation activities, subject to written approval of the receiving entity by the IRT. If no public resource agency, or non-profit agency engaged in conservation activities, is willing to accept management responsibility for the bank land, then the Sponsor will be the Long-Term Steward until another party acceptable to the IRT agrees to accept management responsibility for the bank land.

5. If the Sponsor and/or Long-Term Steward elects to assign responsibility for the Long-term Management and Maintenance Plan to a Long-Term Steward, the assignment agreement will reflect that the assignee has assumed the obligation, owed to the IRT, of accomplishing the Long-Term Management and Maintenance Plan. In exchange for the assignee's commitment to implement the Long-Term Management and Maintenance Plan, contemporaneously with the assignment of Long-Term Management and Maintenance responsibilities, the Sponsor will direct disbursement of the full amount of funds in the Catastrophic Event and Long-Term Management Fund to the Long-Term Steward. In the event the responsibility for executing the Long-Term Management and Maintenance Plan is not assigned to a third-party assignee, upon closure of the Bank, the full amount of the funds in the Catastrophic Event and Long-Term Management Fund will be disbursed to the Sponsor.

7.0 QUALIFICATIONS OF THE SPONSOR

Flynn Contracting is committed to the successful completion of this project and has a long record of successful wetland and stream mitigation projects in the area, a number of which were completed in conjunction with Redwing. Flynn Contracting has contracted Redwing to direct the technical and regulatory aspects of natural habitat restoration on the site. Redwing has extensive experience with wetland and stream mitigation in Kentucky and its principals have over 22 years of experience with mitigation permitting, design, implementation, and monitoring in the region. Redwing's involvement will provide a consistent quality approach to establishment of a diverse natural areas complex on the site. A list of Flynn and Redwing mitigation/restoration projects is provided in Appendix B.

8.0 ECOLOGICAL SUITABILITY

This project offers significant ecological restoration opportunities, which include 1) elimination of agricultural practices within an active floodplain; 2) restoration of forested wetland habitat; and 3) increasing/enhancing wildlife habitat adjacent to the Salt River corridor and other nearby forested wetlands and mitigation sites. The proposed site is ecologically suitable for restoration of wetlands based on its landscape position, soils, hydrology, vegetation, and current land use. Each of these topics is discussed further below.

8.1 LANDSCAPE POSITION

The proposed property is located in a meander bend of the Salt River directly west of the City of Shepherdsville in central Bullitt County. This area has historically consisted primarily of forested wetlands and uplands along with scattered areas of emergent wetland, scrub-shrub wetland, streams and open water areas that provided significant wildlife habitat as well as other wetland functions. Substantial areas have been cleared, ditched, and filled for agricultural uses as well as for residential, commercial, and industrial development. This project will provide important natural habitat along the Salt River corridor, as a link between other existing forested wetland and aquatic habitats in the region.

In an effort to characterize the suitability of the site for wetland restoration, and as requested by the USACE, a wetland delineation was conducted on January 23, 2013. This also supported detailed soil and hydrology data collected since 2011. The wetland delineation (presented in Appendix C) was accomplished through documentation of the presence/absence of hydric soils, wetland hydrology, and hydrophytic vegetation per the guidelines of the April 2012 *Regional Supplement to the U.S. Army Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region Version 2.0*.

A jurisdictional determination of open waters, such as streams and ponds, within the project corridor was made based on the presence/absence of ordinary high water mark (OHWM), defined bed and bank features, and flow regime. Soil, hydrology and vegetation data were collected at five points throughout the site (Figure C1). Routine Wetland Determination Data Forms are attached in Appendix C, along with a Preliminary Jurisdictional Determination Form for the site. Additional hydrology data was gathered from three groundwater monitoring wells installed in 2012, and additional soil information was gathered through evaluation of numerous soil profiles.

8.2 SOILS

The USDA Soil Survey Geographic Database for Bullitt County, Kentucky (2009), maps the site as being underlain by Newark silt loam, with small acreages of Elk silt loam and Markland silty clay along the northeastern and western borders (Figure 7). Newark silt loam is listed on the Bullitt County hydric soils list as hydric-by-inclusion. The Newark series is typically located on depressions and floodplains. The following table provides a brief description of the soil series.

Soil Series	Description*
Newark	The Newark series consists of very deep, somewhat poorly drained soils formed in mixed alluvium from limestone, shale, siltstone, sandstone, and loess. The soil is on nearly level flood plains and in depressions. Slope ranges from 0 to 3 percent. Typically considered Prime Farmland if drained and either protected from flooding or not frequently flooded during the growing season. Most areas are used for growing corn, soybeans, grain sorghum, hay, or pasture. The remainder is in woodland. Native vegetation was bottomland hardwoods, mostly water-tolerant oaks, maples, elms, sycamore, poplar, willow, shagbark hickory, green ash, reeds, and rushes
Elk	The Elk series consists of very deep, well drained, moderately permeable soils formed in mixed alluvium from limestone, siltstone, shale, sandstone, and loess. Elk soils are on stream terraces. Slopes commonly range from 0 to 12 percent, but the range extends to 40 percent. Considered to be Prime Farmland, largely planted in cultivated crops, principally corn, tobacco, small grains, soybeans, and hay or pasture. Native forest has oaks, elms, walnut, hickory, and ash as the dominant species.
Markland	The Markland series consists of very deep, well drained soils on lake plains or are commonly on risers of dissected lake plains, and less commonly on treads. They formed in thin loess and the underlying calcareous, fine-textured lacustrine sediments. Slopes are commonly 12 to 50 percent, but range from 2 to 70 percent. Most areas are used for woodland or hay and pasture. Some areas are used for cropland mainly corn and soybeans, but Markland soils are not considered Prime Farmland. Native vegetation is mixed hardwood forest.

*From the USDA Official Series Description website (<https://soilseries.sc.egov.usda.gov/osdlist.asp>)

A field assessment confirmed the presence of hydric soil characteristics over much of the site. Soil profiles were taken at five data point locations as part of the delineation (Appendix C) and at 10 soil profile locations across the site in January 2013 and June 2012, respectively (Appendix D). The locations of the soil samples are depicted on Figure 7 and the results are summarized in the table below.

Summary of Soil Evaluations

Data Point	Hydric Soil Present	Hydric Soil Indicator/Comment
1	Yes	F3 - Depleted Matrix
2	Yes	F3 - Depleted Matrix
3	Yes	F3 - Depleted Matrix
4	Borderline	F3 - Depleted Matrix
5	Borderline	F3 - Depleted Matrix
Soil Profile		
1	Yes	F3 - Depleted Matrix
2	Yes	F3 - Depleted Matrix
3	Yes	F3 - Depleted Matrix
4	Borderline	F3 - Depleted Matrix
5	Yes	F3 - Depleted Matrix
6	Yes	F3 - Depleted Matrix
7	Yes	F3 - Depleted Matrix
8	Borderline	F3 - Depleted Matrix
9	Yes	F3 - Depleted Matrix
10	Yes	F3 - Depleted Matrix

The data points are located within and immediately adjacent to the man-made ditches and the soil profiles are located across the site in existing cultivated farm fields (Figure 4). The upper soils layers in the field areas have been disturbed and likely homogenized from farming practices including plowing and tire rutting. Farming activities may also have obscured redox concentrations within the upper 8 to 12 inches. Soil profiles were considered borderline hydric if they were within one chroma of hydric characteristics and contain redox concentrations.

8.3 HYDROLOGY

The site is generally flat, as illustrated by the lack of contour lines on the USGS topographic map (Figure 1) and limited elevation changes on the recent topographic survey (Figures 4 and 5). Elevation decreases gradually from north to south and east to west. Elevations range across the site from 336 feet near the northeast boundary of the site to 327 feet at the southwestern end of the property; however, the central portion of the site varies only by one to two feet in elevation (Figure 5). Hydrologic inputs consist of precipitation and flooding of the Salt River. The entire site is located within the 100-year floodplain (Figure 8). Surface water management for farming purposes has been accomplished via ditching and surface grading. Three central ditches carry flows south toward the Salt River.

The table below presents the WETS statistics for average monthly temperature and precipitation along with average growing season dates for Bernheim Forest, Bullitt County Kentucky, which is approximately nine miles southeast of the proposed project site.

WETS Table Statistics

WETS Station: Bernheim Forest, KY0630

Creation Date: 01/27/2003

Latitude: 3789

Longitude: 08562

Elevation: 550

State FIS/County (FIPS): 21029

County Name: Bullitt

Start year: 1971

End year: 2000

Month	Temperature (Degrees F.)			Precipitation (Inches)				
	Ave Daily Maximum	Ave Daily Minimum	Average	Average	30% chance will have		Average # days with 0.1 or more	Average total snowfall
					less than	more than		
January	43.8	24.2	34.0	3.48	2.52	4.38	6	3.6
February	50.1	27.3	38.7	3.94	2.39	4.54	6	2.4
March	60.5	35.6	48.0	4.71	3.21	5.00	8	0.8
April	70.4	43.3	56.9	4.42	2.82	5.49	8	0.0
May	78.6	52.7	65.7	5.37	3.65	6.30	8	0.0
June	85.9	61.0	73.4	4.66	3.41	5.92	7	0.0
July	89.6	65.2	77.4	4.48	2.77	5.59	6	0.0
August	88.8	63.4	76.1	3.49	2.10	3.92	6	0.0
September	82.9	56.6	69.7	3.32	2.05	3.60	5	0.0
October	72.1	45.1	58.6	3.23	2.06	4.05	5	0.0
November	59.1	37.0	48.0	4.26	3.02	5.32	7	0.3
December	48.5	29.0	38.8	4.48	3.03	5.38	6	0.7
Annual	--	--	--	--	43.78	53.27	--	--
Average	69.2	45.0	57.1	--	--	--	--	--
Total	--	--	--	49.85	--	--	78	7.9

Growing Season Dates			
Probability	Temperature		
	24 F or higher	28 F or higher	32 F or higher
	Beginning and ending dates Growing season length		
50%	3/26 to 11/9 228 days	4/9 to 10/27 201 days	4/24 to 10/16 175 days
70%	3/21 to 11/14 238 days	4/5 to 10/31 209 days	4/19 to 10/21 185 days

For this area of Kentucky, the average daily temperature is 57.1 °F with an average daily maximum of 69.2 °F and minimum of 45.0 °F. Average annual precipitation is 49.85 inches. Over the 30-year

measurement period (1971-2000), 40% of the years received between 43.78 and 53.27 inches of precipitation. The growing season is approximately 209 days long, beginning on April 5 and ending on October 31.

Throughout 2012, the precipitation total was slightly below normal. Based on the data and statistics presented in the table below, the average total for January through December is 49.85 inches of precipitation. Precipitation through 2012 was approximately 48.14 inches, which is approximately 1.71 inches below normal.

**2012 Monthly Precipitation Totals
at Shepherdsville, KY (Shepherdsville 5NE)**

Month	Precipitation (Inches)	WETS Table Precipitation Average (Inches)	Deviation
January	6.26	3.48	2.78
February	2.18	3.94	-1.76
March	7.55	4.71	2.84
April	3.83	4.42	-0.59
May	6.57	5.37	1.20
June	1.98	4.66	-2.68
July	1.96	4.48	-2.52
August	2.28	3.49	-1.21
September	4.84	3.32	1.61
October	2.79	3.23	-0.44
November	1.18	4.26	-3.08
December	6.72	4.48	2.24
Total	48.14	49.85	-1.71

Note: Preliminary precipitation data obtained from The National Climatic Data Center

Three groundwater monitoring wells were installed on the site in March 2012, and their locations are presented on Figure 4. The groundwater wells are programmed to monitor water levels twice daily. Hydrographs of the well monitoring data from 2012 and 2013 are presented in Appendix E. The table below summarizes the results of the groundwater well monitoring data between March 20 and November 21, 2012; and January 1 through July 1, 2013.

Well Data Summary

Well	Surface Elevation (feet)	Duration of Water at < 12 inches during Growing Season [consecutive days (dates)]	Hydrology Criterion Met?
2012			
1	436.75	3 (5/5-5/7); 5 (5/13-5/17)	No
2	434.75	2 (4/5-5/6); 5 (5/13 – 5/17)	No
3	434.00	5 (5/5–5/9; 6 (5/13-5/18); 3 (6/1-6/3)	No
2013			
1	436.75	5 (4/12-4/16); 4 (4/19-4/22); 8 (4/24-5/1); 11 (5/4-5/14); 4 (6/27-6/30)	No
2	434.75	14 (4/19-5/2); 12 (5/4-5/15); 5 (6/27-7/1)	Yes
3	434.00	5 (4/11-4/15); 4 (4/19-4/22); 9 (4/24-5/2); 11 (5/4-5/14); 2 (6/27-6/28)	No

Note: See graphical well data in Appendix E.

In 2012 the wells exhibited 3 to 6 consecutive days of water within 12 inches of the surface during the growing season, likely due in part to summer drought conditions as well as ongoing effects of agricultural drainage. In 2013 Well 2 met the wetland hydrology criterion with 14 consecutive days, while Well 1 had consecutive periods of 8 and 11 days, and Well 3 had consecutive periods of 9 and 11 days. In addition, crayfish burrows (a secondary indicator of wetland hydrology) were abundant across the agricultural fields. Thus, it appears that the site receives hydrologic inputs sufficient to maintain wetland conditions once agricultural drainage features are removed. Flooding will occur periodically and filling the man-made ditches will likely raise groundwater levels.

8.4 VEGETATION

The site consists of 47.0 acres of agricultural fields, a majority of which have been actively farmed for over 30 years. According to the farmer and current land owner, flooding and saturated soils delay planting in wet years; however, the fields are disked annually in order to prepare the field for the next planting season and to control any unwanted growth. The site was sown with corn in 2012 and soybeans in 2013. Key vegetation components of the wetlands and cultivated agricultural fields and are discussed below.

Wetlands: Three wetlands totaling 0.467 acre were delineated in three man-made ditches in the central portion of the site (Appendix C). Dominant vegetation includes moneywort (*Lysmanchia nummularia*), reed canary grass (*Phalaris arundinacea*), fox sedge (*Carex vulpinoidea*), soft rush (*Juncus effusus*), and green ash (*Fraxinus pennsylvanica*).

Cultivated Fields: In addition to the planted corn and soybeans, common volunteer species on the cultivated fields included: chufa (*Cyperus esculentus*), curly dock (*Rumex crispus*), Johnson grass (*Sorghum halapense*), and sedge (*Carex sp.*).

8.5 CURRENT LAND USE

Additional site and land use information was gathered from the current farmer regarding present and past site conditions. The current farmer has cropped the property for the past 30 years in corn or soybeans. He is able to cultivate the entire property in most years; however, during wet years seeding and harvest can be delayed, and in some years no crops are grown due to excessive wet conditions.

9.0 WATER RIGHTS AND LONG-TERM SUSTAINABILITY

The current owner is not aware of any liens, encumbrances, or restrictions that may impede or inhibit the long-term sustainability of the wetland mitigation bank project. However, a formal title search will be conducted as the bank approval process proceeds, to identify easements or restrictions that may affect the subject property. Given the sufficient precipitation in this region of the country and location within a floodplain area associated with the Salt River watershed, the SRMB property has a long-term sustainable source of water with no water right encumbrances.

10.0 CONCLUSION

This Prospectus has been prepared on behalf of Flynn Contracting, to provide guidance for the establishment of the Salt River Mitigation Bank (SRMB), which will provide important wetland mitigation in the Salt River and Silver-Little Kentucky River watersheds within the Salt River Basin of central Kentucky. The establishment of the SRMB will help provide up-front in-kind mitigation for future unavoidable wetland impacts in a diverse natural areas complex that can provide significantly greater functions and values than would a number of smaller, separate mitigation projects.

Development of the SRMB will result in a total of 47.8 acres of wetland credits on the 47-acre site. The SRMB will significantly increase habitat diversity and wetland functions within the current farm fields along the Salt River corridor. It will serve as an important natural area, which expands adjacent riparian corridors. The site will provide important functions in terms of aquatic and terrestrial wildlife food and cover, diversity of native plant communities, water quality, floodflow attenuation, and social benefits related to aesthetics and outdoor recreation/education.

TABLES

**Table 1: Wetland Groundcover Seeding List
Salt River Mitigation Bank**

Scientific Name	Common Name	% of Mix
<i>Carex vulpinoidea</i>	Fox Sedge	10
<i>Cyperus esculentus</i>	Nutsedge	10
<i>Echinochloa muricata</i>	Barnyard Grass	10
<i>Poa palustris</i>	Fowl Manna Grass	10
<i>Panicum clandestinum</i>	Deertongue Panicum	10
<i>Panicum virgatum</i>	Switchgrass	10
<i>Elymus riparius</i>	Riverbank Wild Rye	5
<i>Elymus virginicus</i>	Virginia Wild Rye	5
<i>Carex frankii</i>	Frank's Sedge	4
<i>Carex lurida</i>	Lurid Sedge	4
<i>Eleocharis palustris</i>	Creeping Spike Rush	4
<i>Spartina pectinata</i>	Prairie Cordgrass	4
<i>Bidens cernua</i>	Nodding Bur Marigold	2
<i>Helenium autumnale</i>	Common Sneezeweed	2
<i>Juncus effusus</i>	Soft Rush	2
<i>Leersia oryzoides</i>	Rice Cutgrass	2
<i>Mimulus ringens</i>	Square Stem Monkey Flower	2
<i>Scirpus atrovirens</i>	Green Bulrush	2
<i>Verbena hastata</i>	Blue Vervain	2

Note: equivalent native species may be substituted based on availability
A minimum of 910 pounds (20 pounds per acre over 45.5 acres) will be seeded in the dormant season. An additional minimum of 1,365 pounds (30 pounds per acre over 45.5 acres) of annual cover crop will be sown immediately following completion of construction activities.

**Table 2: Upland Groundcover Seeding List
Rolling Fork Mitigation Bank**

Scientific Name	Common Name	% of Mix
<i>Chamaecrista fasciculata</i>	Partridge Pea	20
<i>Elymus canadensis</i>	Canada Wild Rye	20
<i>Panicum virgatum</i>	Switch Grass	20
<i>Andropogon gerardii</i>	Big Bluestem	10
<i>Schizachyrium scoparium</i>	Little Bluestem	10
<i>Tridens flavus</i>	Purple Top Grass	10
<i>Lespedeza capitata</i>	Round-head Lespedeza	5
<i>Rudbeckia hirta</i>	Black-eyed Susan	5

Note: equivalent native species may be substituted based on availability
A minimum of 30 pounds (20 pounds per acre over 1.5 acres) will be seeded in the dormant season. An additional minimum of 45 pounds (30 pounds per acre over 1.5 acres) of annual cover crop will be sown immediately following completion of construction activities.

**Table 3: Wetland Tree/Shrub Planting List
Salt River Mitigation Bank**

Species Name	Common Name	Indicator	Strata
<i>Acer saccharinum</i>	Silver Maple	FACW	Tree
<i>Alnus serrulata</i>	Brookside Alder	OBL	Shrub
<i>Amorpha fruticosa</i>	False Indigo Bush	FACW	Shrub
<i>Aronia melanocarpa</i>	Black Chokeberry	FAC	Shrub
<i>Betula nigra</i>	River Birch	FACW	Tree
<i>Celtis laevigata</i>	Sugarberry	FACW	Tree
<i>Cephalanthus occidentalis</i>	Buttonbush	OBL	Shrub
<i>Cornus amomum</i>	Silky Dogwood	FACW	Shrub
<i>Cornus foemina</i>	Swamp Dogwood	FAC	Shrub
<i>Ilex decidua</i>	Deciduous Holly	FACW	Shrub
<i>Lindera benzoin</i>	Spicebush	FACW	Shrub
<i>Liquidambar styraciflua</i>	Sweet Gum	FAC	Tree
<i>Nyssa sylvatica</i>	Black Gum	FAC	Tree
<i>Platanus occidentalis</i>	Sycamore	FACW	Tree
<i>Populus deltoides</i>	Cottonwood	FAC	Tree
<i>Quercus bicolor</i>	Swamp White Oak	FACW	Tree
<i>Quercus lyrata</i>	Overcup Oak	OBL	Tree
<i>Quercus michauxii</i>	Swamp Chestnut Oak	FACW	Tree
<i>Quercus pagoda</i>	Cherrybark Oak	FACW	Tree
<i>Quercus palustris</i>	Pin Oak	FACW	Tree
<i>Quercus phellos</i>	Willow Oak	FAC	Tree
<i>Quercus shumardii</i>	Shumard Oak	FAC	Tree
<i>Sambucus canadensis</i>	Elderberry	FACW	Shrub
<i>Ulmus americana</i>	American elm	FACW	Tree
<i>Viburnum dentatum</i>	Arrowwood	FAC	Shrub

Note: Comparable native species may be substituted, based on availability.

A minimum of 2,730 trees/shrubs will be planted, based on a minimum rate of 60 stems/acre (approximately 27-foot on center). Approximately two thirds of the plantings will be trees and one-third will be shrubs. No one species will exceed 20% of total planted individuals.

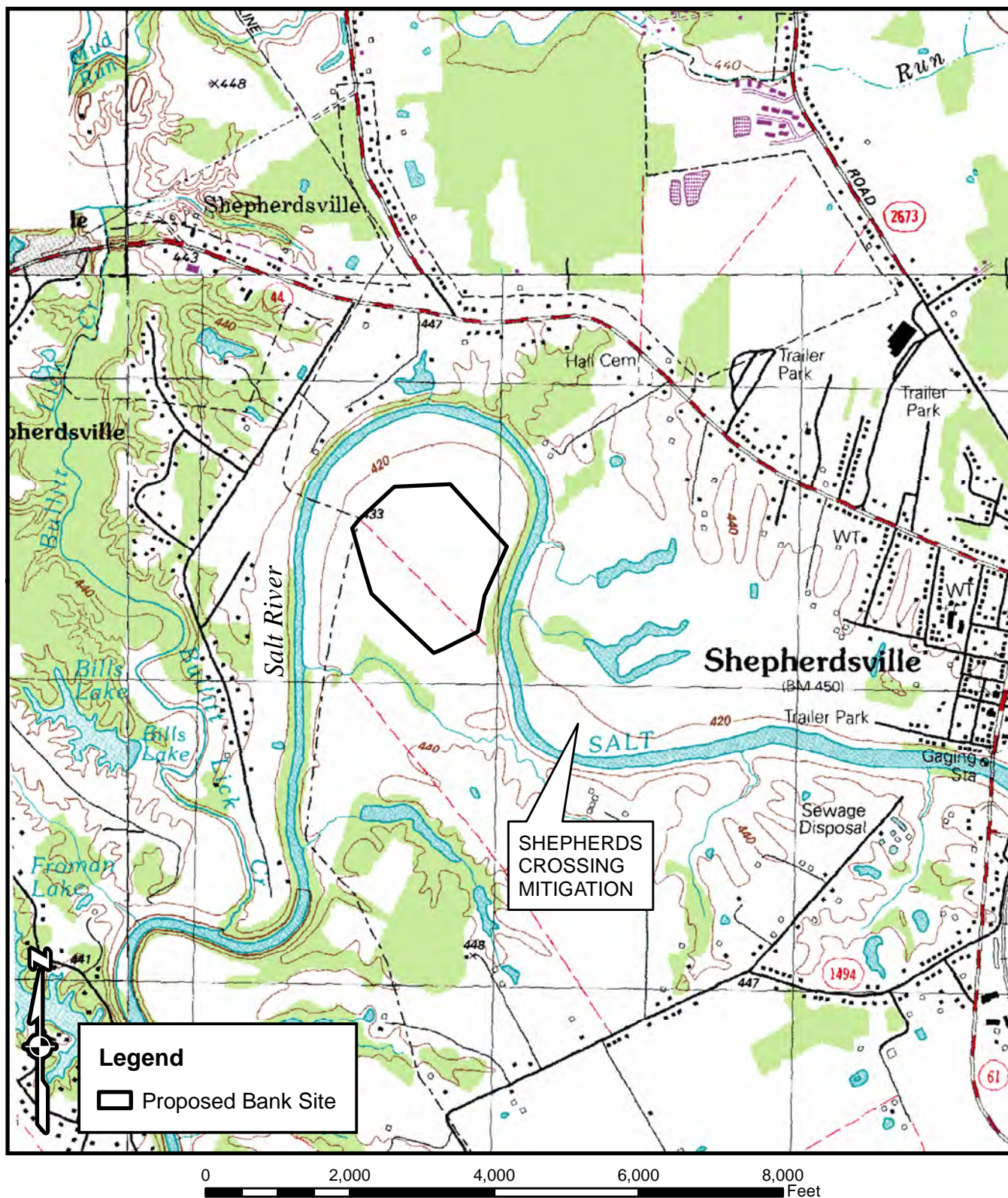
**Table 4: Upland Tree/Shrub Planting List
Salt River Mitigation Bank**

Species Name	Common Name	Strata
<i>Cornus stoloniferum</i>	Red-Osier Dogwood	Shrub
<i>Pinus echinata</i>	Shortleaf Pine	Tree
<i>Pinus rigida</i>	Pitch Pine	Tree
<i>Pinus strobus</i>	White Pine	Tree
<i>Rhus copallina</i>	Winged Sumac	Shrub

Note: Comparable native species may be substituted, based on availability.

A minimum of 270 trees and 270 shrubs will be planted. Pines will be planted on 20-foot intervals along the top of the berm, while shrubs will be planted on 20-foot intervals (alternating with the pine) along the outer sideslope.

FIGURES



**SALT RIVER MITIGATION BANK
BULLITT COUNTY, KENTUCKY**

FILE: Redwing/Figures/Prospectus/Site Location

REDWING PROJECT 11-068

REVISED DATE 7.10.2013

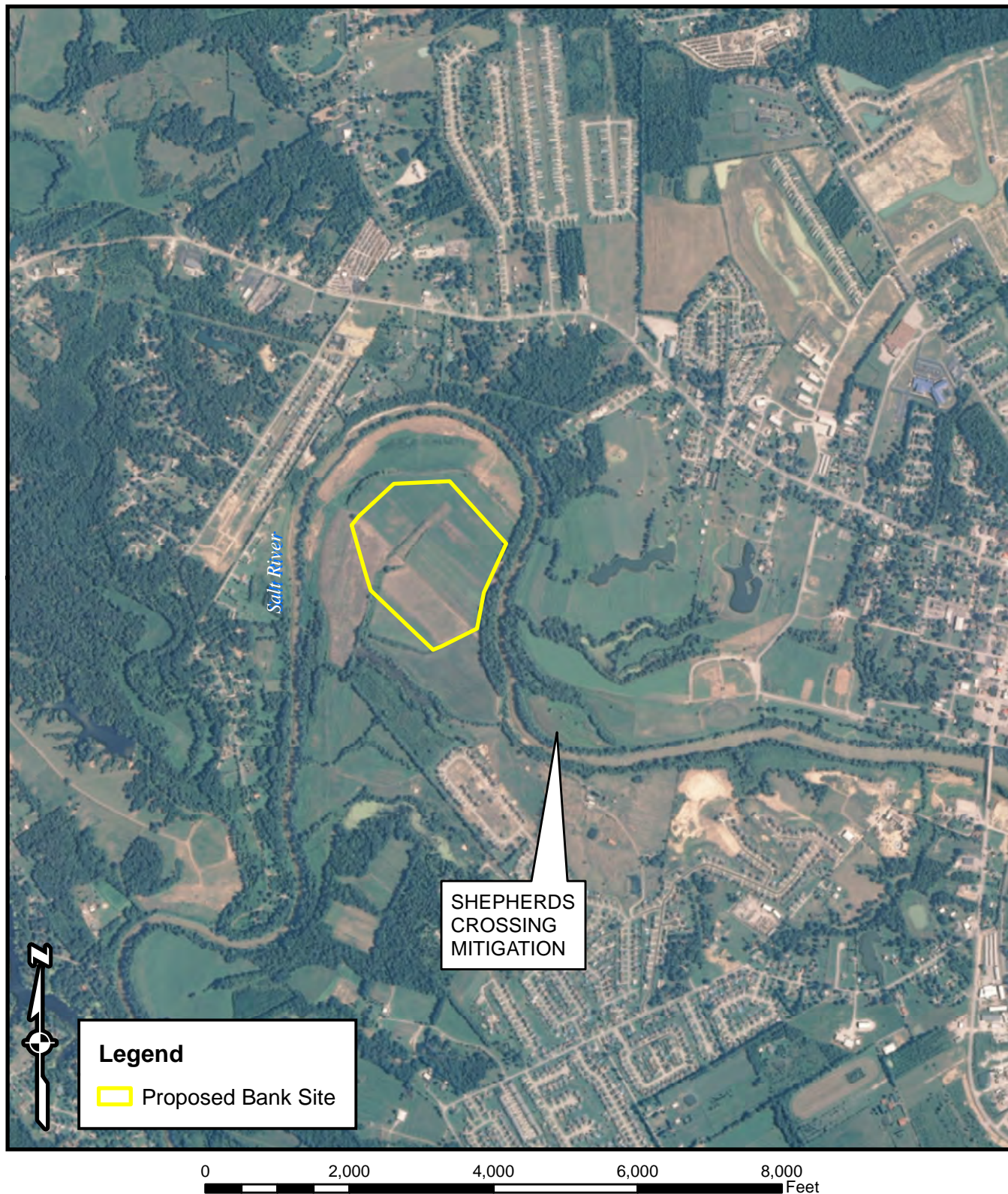
DRAWN BY EDB



SITE LOCATION MAP

FIGURE 1

Source: NAIP/FSA Kentucky Imagery kygissserver.ky.gov (2010).



SALT RIVER MITIGATION BANK
BULLITT COUNTY, KENTUCKY

FILE: Redwing/Figures/Prospectus/Aerial

REDWING PROJECT 11-068

REVISED DATE 7.10..2013

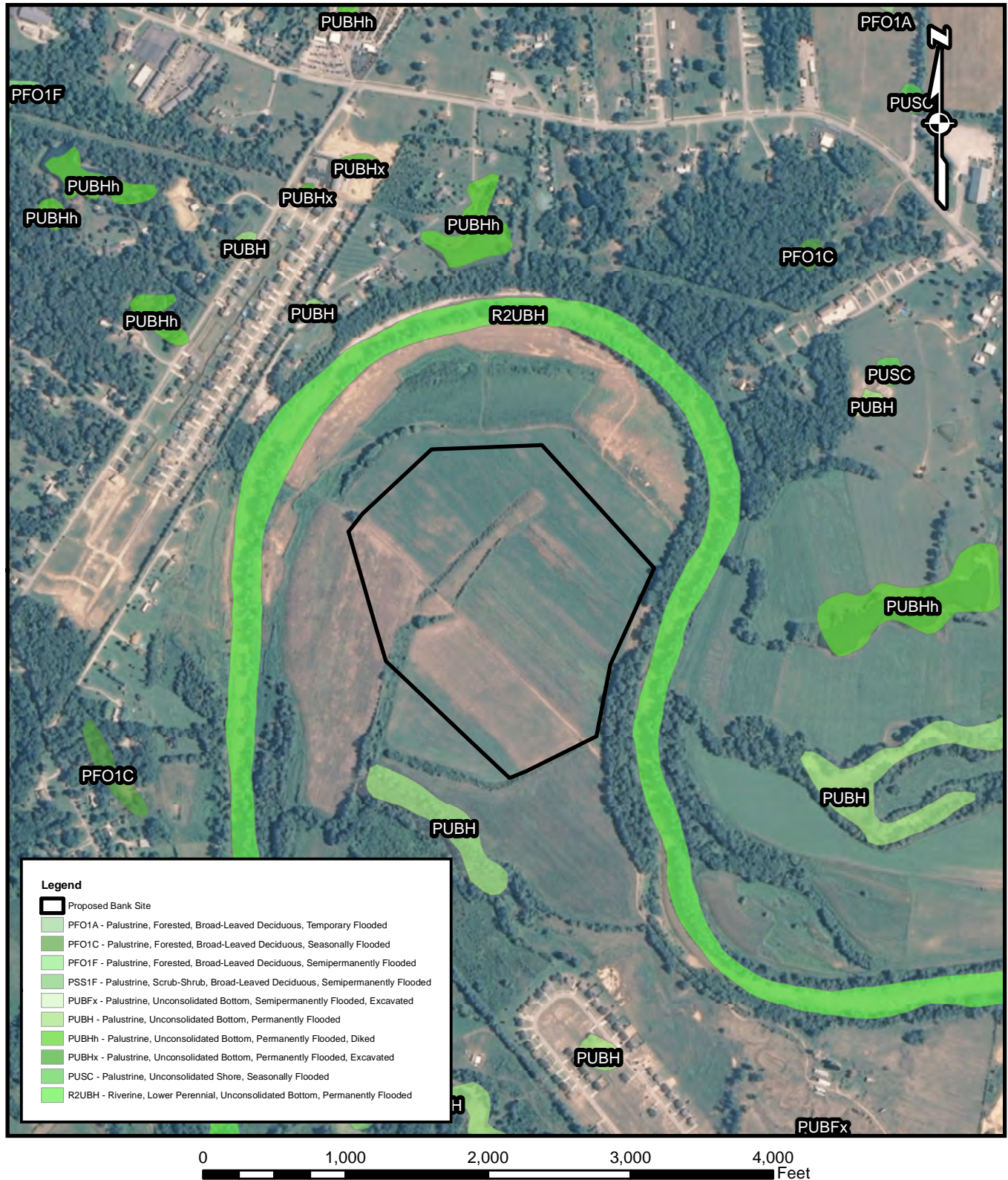
DRAWN BY EDB



2010
AERIAL PHOTOGRAPH MAP

FIGURE 2

Source: NAIP/FSA Kentucky Imagery kygisserver.ky.gov (2010); NWI US Fish and Wildlife Service, Kentucky (2010).



SALT RIVER MITIGATION BANK BULLITT COUNTY, KENTUCKY

FILE: Redwing/Figures/Prospectus/NWI

REDWING PROJECT 11-068

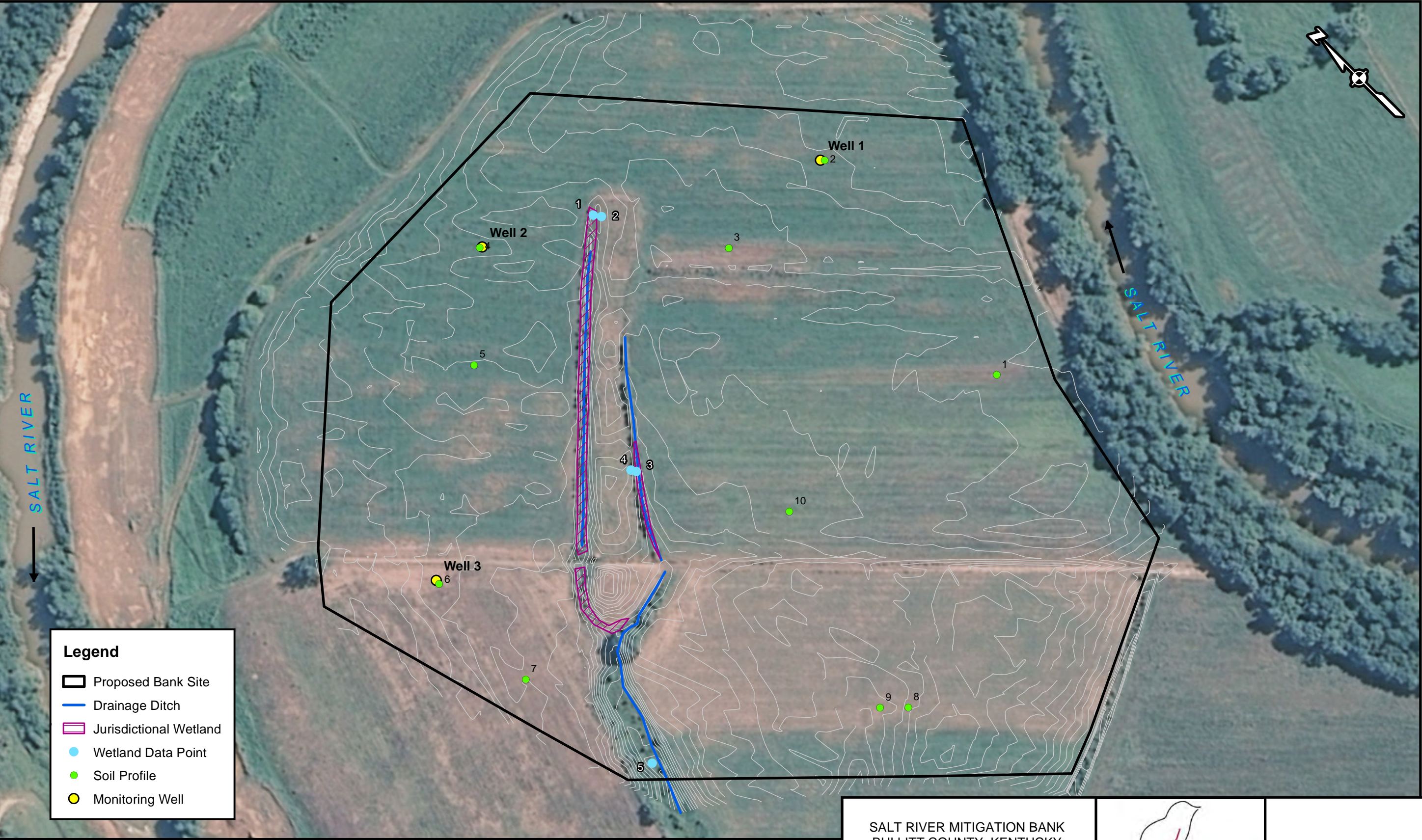
REVISED DATE 7.10.2013

DRAWN BY EDB



NATIONAL WETLANDS INVENTORY MAP

FIGURE 3



0 200 400 600 800 Feet

NOTE: JURISDICTIONAL WATER/WETLAND BOUNDARIES WERE DELINEATED AND SURVEYED USING GLOBAL POSITIONING SYSTEM EQUIPMENT BY REDWING WETLAND SCIENTISTS ON JANUARY 23, 2013. THESE BOUNDARIES HAVE NOT BEEN VERIFIED BY THE U.S. ARMY CORPS OF ENGINEERS. USE OF THIS MAP IS FOR PRELIMINARY PLANNING PURPOSES ONLY.

SALT RIVER MITIGATION BANK
BULLITT COUNTY, KENTUCKY

FILE: Redwing/11-068/Figures/Prospectus/ExistingConditionsMap

REDWING PROJECT 11-068

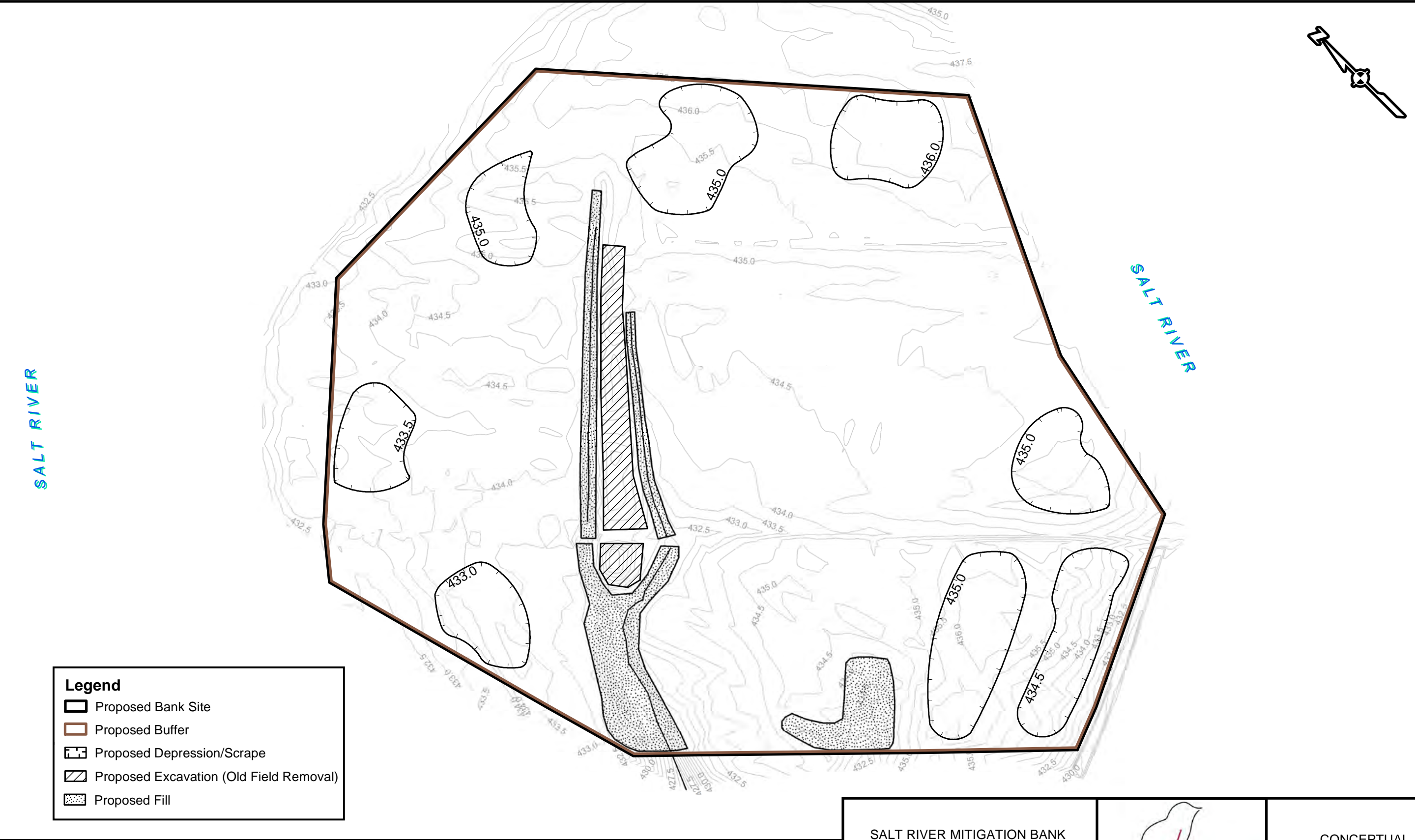
REVISED DATE: 7.10.2013

DRAWN BY EDB



EXISTING CONDITIONS MAP

FIGURE 4



0 200 400 600 800 Feet

SALT RIVER MITIGATION BANK
BULLITT COUNTY, KENTUCKY

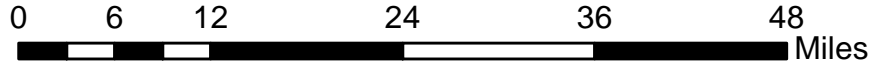
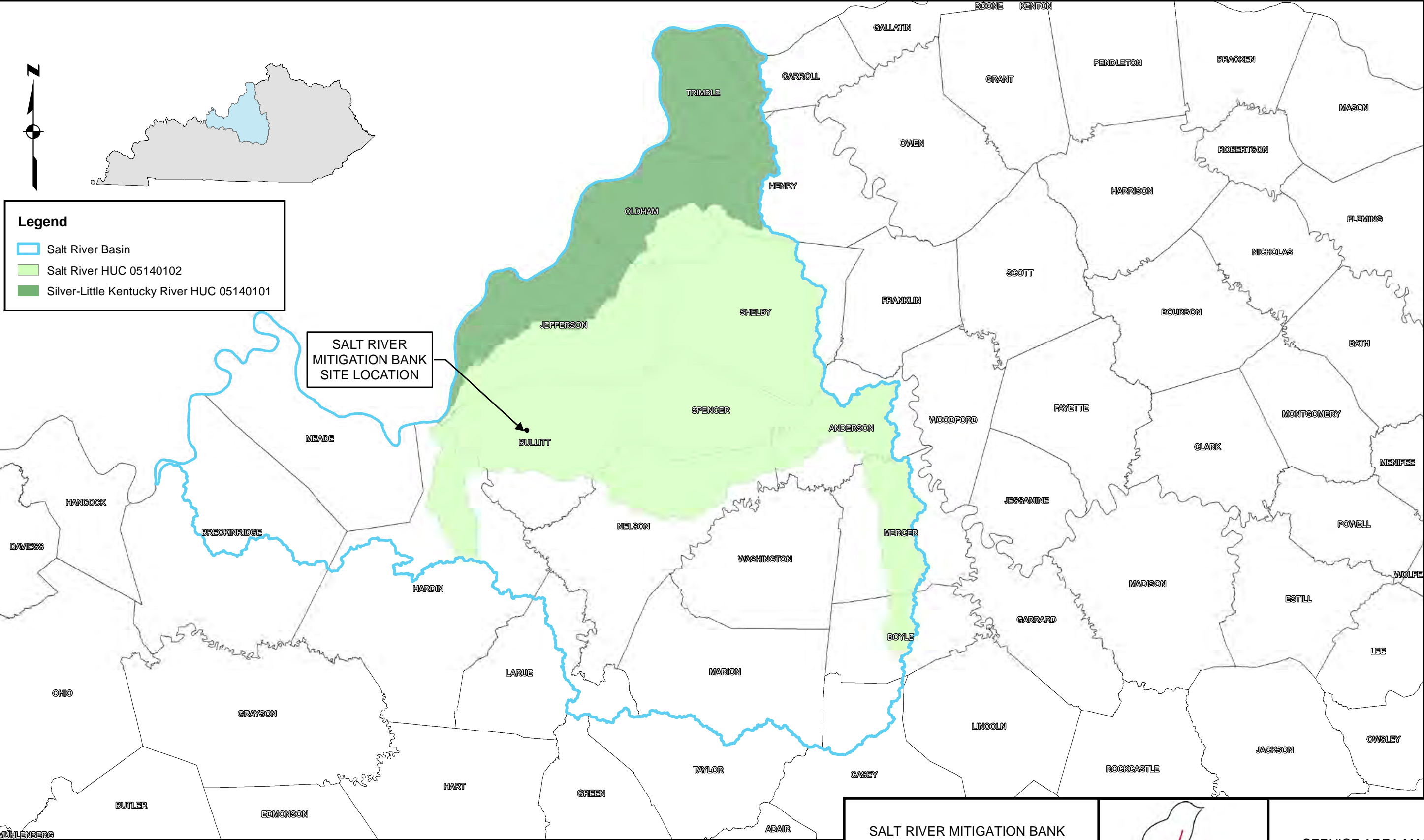
FILE: Redwing/11-068/Figures/Prospectus/ConceptMitigationPlan
REDWING PROJECT 11-068
REVISED DATE: 07-09-2013 DRAWN BY EDB



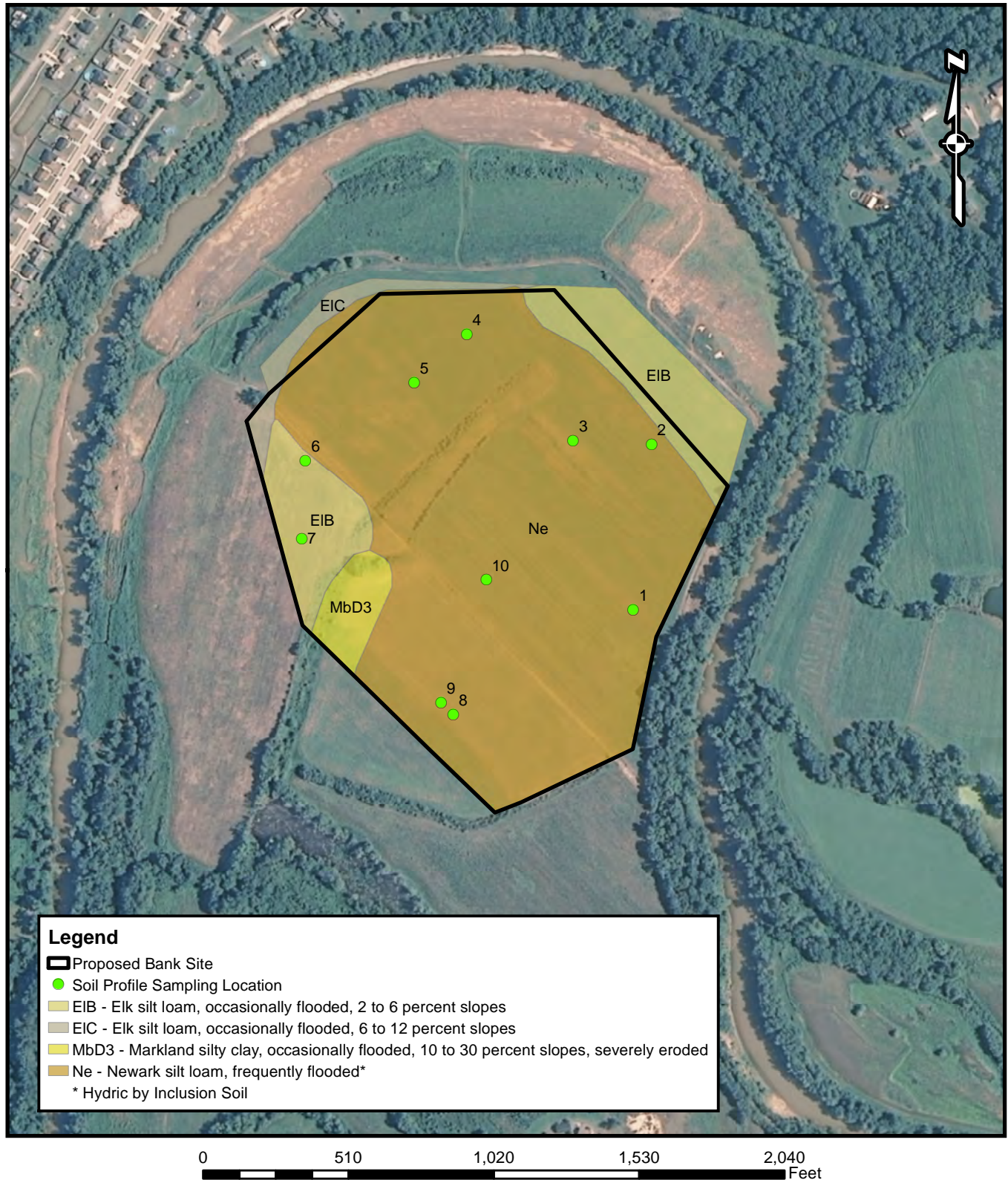
CONCEPTUAL
GRADING PLAN

FIGURE 5

Source: River Basin and County Basefiles from Kentucky Geological Survey; Rivers, Streams, and Interstate Highway Basefiles from ESRI



SALT RIVER MITIGATION BANK BULLITT COUNTY, KENTUCKY			SERVICE AREA MAP FIGURE 6
FILE: Redwing/11-068/Figures/Prospectus/Service Area Map			
REDWING PROJECT 11-068			
PRINT DATE 7.10.2013	DRAWN BY BJO/EDB		



SALT RIVER MITIGATION BANK
BULLITT COUNTY, KENTUCKY

FILE: Redwing/Figures/Prospectus/Soil Map

REDWING PROJECT 11-068

REVISED DATE 7.10.2013

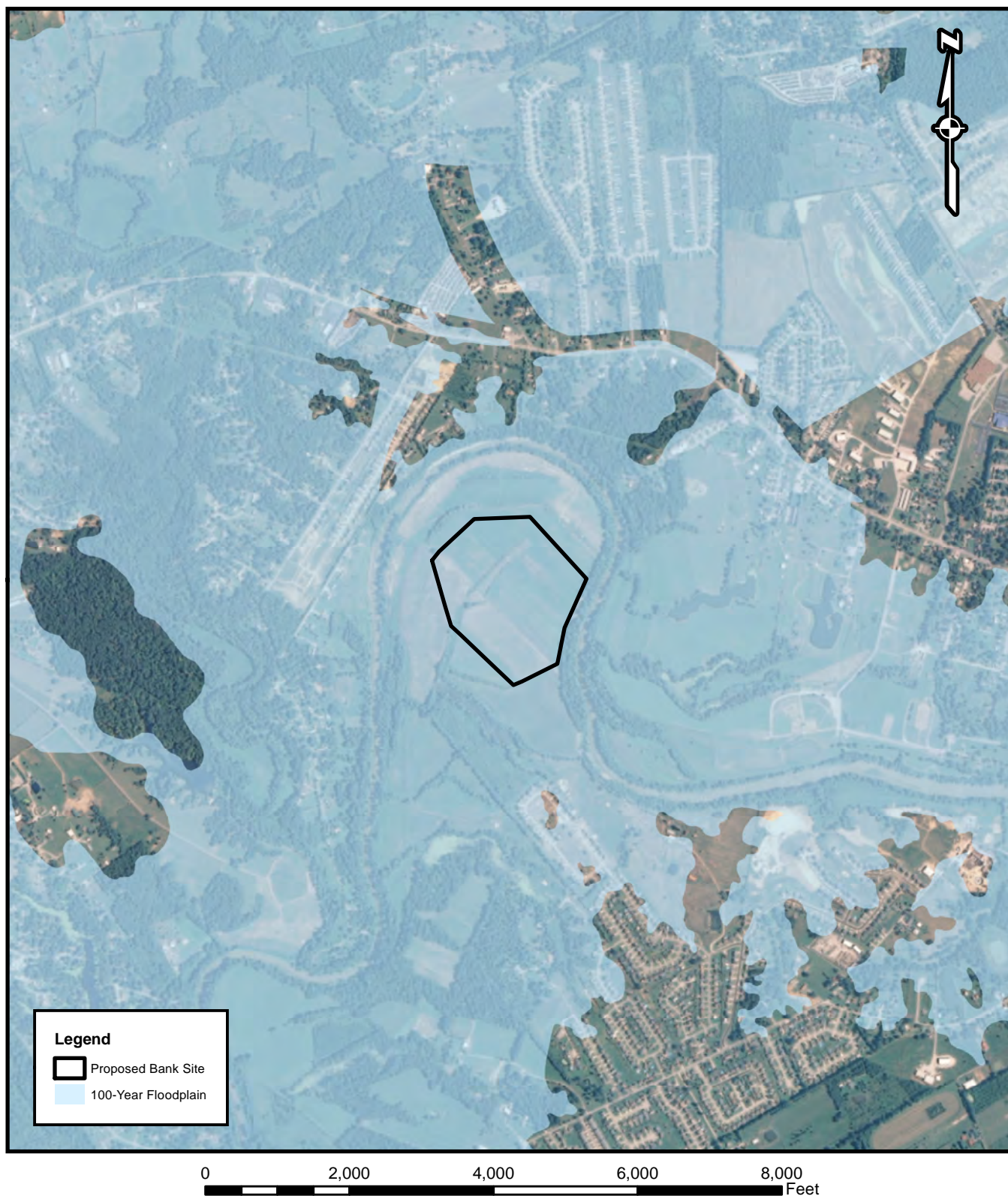
DRAWN BY EDB



SOIL SURVEY MAP

FIGURE 7

Source: NAIP/FSA Kentucky Imagery kygisserver.ky.gov (2010); FEMA Q3 Data for Kentucky (2007).



SALT RIVER MITIGATION BANK BULLITT COUNTY, KENTUCKY

FILE: Redwing/Figures/Prospectus/FEMA

REDWING PROJECT 11-068

REVISED DATE 3.21.2013

DRAWN BY EDB



FEMA FLOODPLAIN MAP

FIGURE 8

PHOTOGRAPHS



Photograph 1: Planted agriculture field in the western portion of the proposed mitigation site facing southeast. Note volunteer wetland vegetation in foreground. June 13, 2012.



Photograph 2: Hydrophytic vegetation is present in constructed ditches in the central portion of the proposed mitigation site. June 13, 2012.



Photograph 3: Much of the proposed mitigation site exhibited scattered surface inundation with 1 to 2 inches of water during well installation in early spring. March 19, 2012.



Photograph 4: Crayfish burrows were observed across the proposed mitigation site within the existing agriculture fields during multiple site visits between 2011 and 2013. June 13, 2012.



Photograph 5: Eastern portion of the proposed mitigation area facing east from central portion of site. March 19, 2012.



Photograph 6: Hydrology Monitoring Well 2, which is located in the northern portion of the site (facing south). March 19, 2012.



Photograph 7: Material excavated from man-made ditches (on right and left of photo) was piled between them during past agricultural-related drainage activities. Facing south from central portion of the site. June 13, 2012.



Photograph 8: Wetland 1 has formed in a man-made drainage ditch in the central portion of the site. Common vegetation included green ash, moneywort, broomsedge, fox sedge, and soft rush. January 23, 2013.



Photograph 9: Wetland conditions have developed in constructed drainage ditches in the central portion of the site. These features will be blocked during implementation to increase water retention on the site. January 23, 2013.



Photograph 10: Standing water in the south-central portion of the site, facing south. January 23, 2013.

APPENDIX A

MITIGATION EASEMENTS

WETLANDS MITIGATION EASEMENT

This **WETLANDS MITIGATION EASEMENT** (the "**Easement**") is delivered as of the 26 day of October, 2012, from "**Gary Moore and Marie Moore**, each unmarried, whose address is 162 Red Oak Drive, Shepherdsville, Kentucky 40165, (collectively "**Moore**") and Flynn Brothers Contracting, Inc. ("**Flynn**") whose address is 1213 Outer Loop, Louisville, Kentucky 40219.

WITNESSETH

Recitals:

1. Moore has agreed to grant this Easement to Flynn to construct a wetland mitigation bank with respect to a portion of the property of Moore consisting of approximately 47.006 acres and identified below (the "**Mitigation Property**") which is currently owned by Moore and subject the Mitigation Property to the terms and provisions of a Declaration of Restrictive Covenants for Conservation(identified below);

2. As used herein:

(a) "**Cabinet**" shall mean the Cabinet identified in the Declarations and which shall include any other successor governmental agency or unit of the Commonwealth of Kentucky which shall hereafter be given the general powers and duties currently held by such Cabinet;

(b) "**Corps**" shall mean the U.S. Army Corps of Engineers, Louisville District;

(c) "**Declaration**" shall mean Declaration of Restrictive Covenants for Conservation which is enforceable by the Corps and the Cabinet which is recorded in Deed Book 813, Page 349 in the Bullitt County Clerk's Office;

(d) "**Owner**" shall mean Moore, or any successor owner or owners of the Mitigation Property;

(e) "**Mitigation Property**" shall mean the property consisting of 47.006 acres as designated as the "Wetlands Easement "Being Granted"" and shown and identified on Exhibit A including all necessary ingress and egress provided herein and on the Exhibit A, which is attached hereto and incorporated into this Easement;

(f) "**Permit**", "**Certification**" and any other capitalized terms not otherwise defined herein shall have the meaning ascribed in the Declaration.

NOW THEREFORE, Moore hereby conveys to Flynn the following easements (herein the "**Easement Rights**"), each of which shall be appurtenant to the Mitigation Property and which shall be deemed covenants running with the land:

Mitigation Easement. Moore grants to Flynn the right to conduct any and all activities involved with the establishment of a wetland mitigation bank as required by the Corps or the Cabinet, including any of those activities identified in the Mitigation Banking Instrument and/or required by the Interagency Review Team (IRT). Activities may include grading/excavation, berm construction, blocking of drainage features, seeding, tree planting, herbicide applications and installation of monitoring wells and plots, as required by the agencies on the Mitigation Property contained in the easement.

Access Easements. Moore grants to Flynn an ingress/egress easement along existing lanes or farm roads, between Red Oak Drive and the Mitigation Property for access to the Mitigation Property which are necessary or appropriate to enjoy all Easement Rights. Moore reserves the right to approve any additional access routes

Period (defined below), Flynn shall have a construction easement on a 50 foot buffer area surrounding the perimeter of the Mitigation Property (the "**Construction Easement**") in order to construct the Mitigation Easement. The approximate location of the Construction Easement is shown on Exhibit A. Moore shall leave the Construction Easement unplanted for a one (1) year period (the "**Construction Period**"). Following the termination of this one year Construction Period, Flynn will reimburse Moore for any planted crops on the perimeter of the Mitigation Property which is thereafter destroyed by Flynn during any subsequent construction or monitoring activity, such reimbursement to be at the fair market value of such destroyed planted crops (less reasonable cost associated with marketing and transporting such destroyed crops). It is anticipated that the Construction Period will begin January 1, 2014. However, Flynn may designate any later calendar year for the Construction Period provided Flynn notifies Moore in writing no later than April 1 of the calendar year next preceding the designated Construction Period. Any dirt which is not needed for the construction of berms or to block or fill drainage features or stockpiled on the Mitigation Property for future repairs or changes shall be removed from the Construction Easement and/or other property of Moore unless stored at a site on the Moore property which is agreed to and designated by Moore.

Regulatory Easements. Moore agrees to grant representative of all regulatory agencies having jurisdiction of the Mitigation Rights, including the Corps, the Cabinet and IRT access to the Mitigation Property to review conditions in the mitigation area and enforce the Declaration.

[Remainder of Page Intentionally Blank]

IN TESTIMONY WHEREOF, witness the signature of Moore as of the date and year first hereinabove written.

By: Gary Moore
Gary Moore

By: Marie Moore
Marie Moore

COMMONWEALTH OF KENTUCKY
COUNTY OF BULLITT)

) SS:

The foregoing Wetlands Mitigation Easement was acknowledged before me, a Notary Public, by Gary Moore and Marie Moore, each unmarried, on this 26 day of October, 2012.

My Commission expires: 11/24/2012

Betty L. Ashbaugh
Notary Public


THIS INSTRUMENT PREPARED BY:

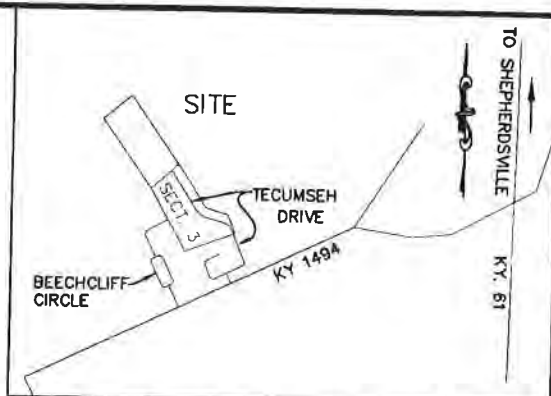
Raymond B. Bannon
Raymond B. Bannon
Attorney at Law
10801 Electron Drive, Suite 102
Louisville, Kentucky 40299

RETURN TO:
TITLE AGENCY SUPPORT, LLC
10600 TIMBERWOOD CIRCLE
SUITE 11
LOUISVILLE, KY 40223
ATTN: CONNIE MOELLER
PHONE: 502-736-4561

NOTES:

1. THIS PLAT DOES NOT CONSTITUTE A BOUNDARY SURVEY AND SHOULD NOT BE USED AS SUCH.
2. THE BOUNDARY LINES SHOWN HEREON WERE DETERMINED FROM DEEDS OF RECORD AND HAVE NOT BEEN VERIFIED.
3. THIS PLAT IS SUBJECT TO EASEMENTS AND RESTRICTIONS WHETHER RECORDED OR NOT.

 DENOTES WETLANDS EASEMENT "BEING GRANTED"
AREA = 2,047,586.6 SQ. FT. OR 47.006 ACRES.

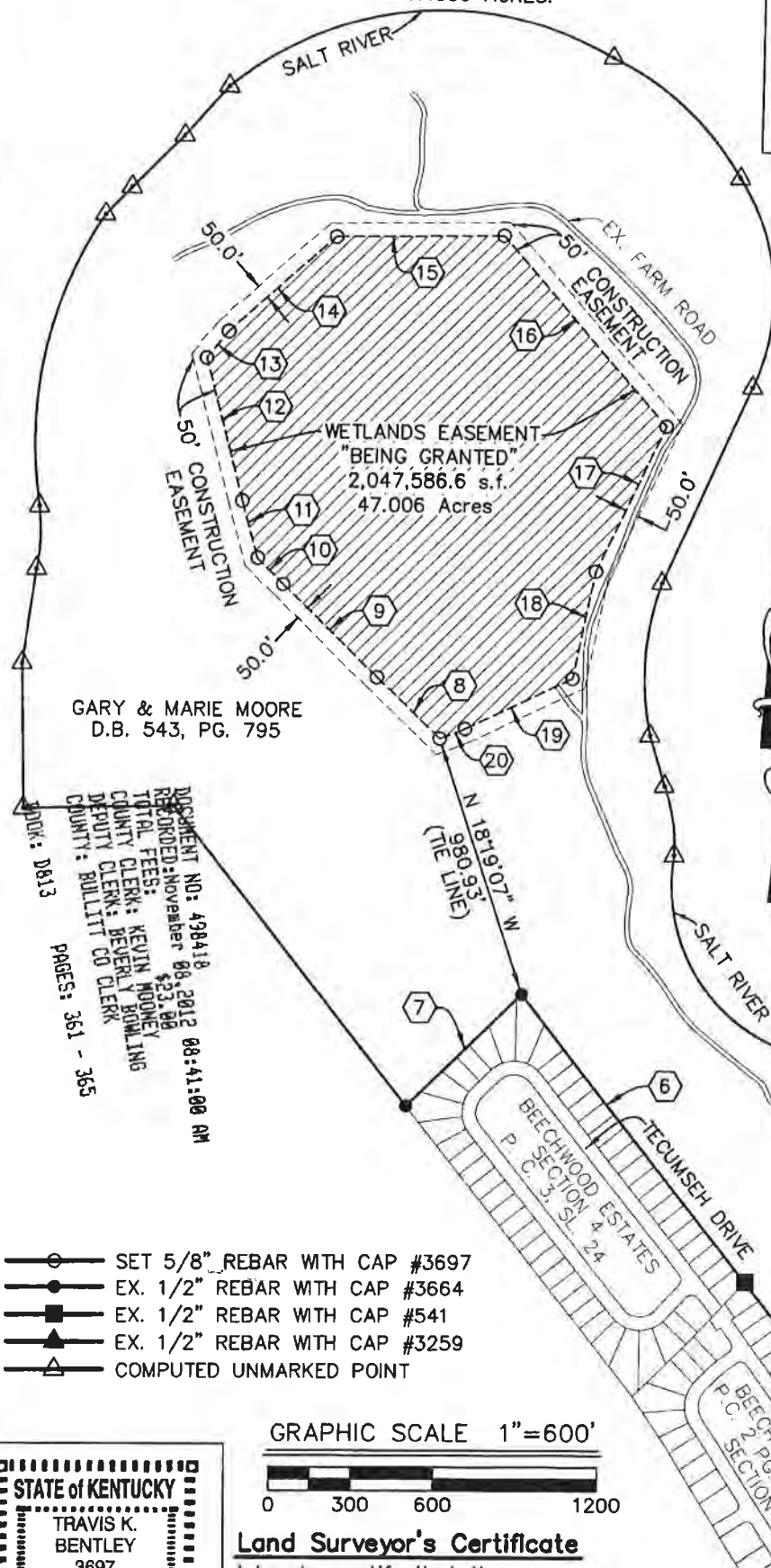


LOCATION MAP

NO SCALE

BEARINGS & DISTANCES

1	N 25°37'26" W	56.43'
2	N 25°37'26" W	268.60'
3	N 76°43'29" W	366.73'
4	N 34°16'48" W	428.46'
5	N 37°32'31" W	399.92'
6	N 38°14'19" W	1332.20'
7	S 46°10'09" W	583.01'
8	N 46°03'26" W	321.92'
9	N 45°37'24" W	483.72'
10	N 45°48'40" W	135.55'
11	N 15°45'20" W	213.73'
12	N 15°07'30" W	528.72'
13	N 39°15'24" E	124.04'
14	N 48°02'33" E	523.04'
15	N 88°37'51" E	612.31'
16	S 41°30'06" E	919.16'
17	S 25°27'22" W	585.12'
18	S 11°44'41" W	401.95'
19	S 64°35'05" W	434.16'
20	S 68°41'28" W	99.27'








GARY & MARIE MOORE
D.B. 543, PG. 795

DOCUMENT NO: 498418
RECORDED: November 08, 2012 08:41:00 AM
TOTAL FEES: \$23.90
COUNTY CLERK: KEVIN MOONEY
DEPUTY CLERK: BEVERLY BOWLING
COUNTY: BULLITT CO. CLERK

BOOK: D813

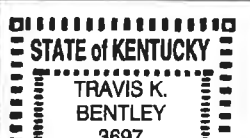
PAGES: 361 - 365

-  SET 5/8" REBAR WITH CAP #3697
-  EX. 1/2" REBAR WITH CAP #3664
-  EX. 1/2" REBAR WITH CAP #541
-  EX. 1/2" REBAR WITH CAP #3259
-  COMPUTED UNMARKED POINT

GRAPHIC SCALE 1"=600'



Land Surveyor's Certificate



SUBORDINATION OF MORTGAGE LIENS

This SUBORDINATION OF MORTGAGE LIENS is executed and delivered
this 30 day of October, 2012, by The People's Bank, Taylorsville, (herein

"**People's Bank**") whose address is

P.O. Box 369, Taylorsville, KY. 40071

WITNESSETH:

That for a valuable consideration, receipt and sufficiency of which is hereby acknowledged by People's Bank, People's Bank hereby subordinates the Mortgage Liens identified in Schedule A (the "**Subordinated Mortgage Liens**") to the rights and covenants granted and incurred in the DECLARATION OF RESTRICTIVE COVENANTS FOR CONSERVATION recorded in Deed Book 813, Page 349 (the "**Declaration**") and to the rights granted to Flynn Brothers Contracting, Inc. in the Wetlands Mitigation Easement ("**Easement**") recorded in Deed Book 813, Page 361 each in the Bullitt County Clerk's Office. People's Bank acknowledges that the Declaration and Easement identified above shall remain in full force and effect in the event that an action is brought to enforce the Subordinated Mortgage Liens to the same extent as if each of the Declaration and Easement were recorded prior to the recording of each of the Subordinated Mortgage Liens.

IN TESTIMONY WHEREOF, witness the signature of an authorized officer of People's Bank the date and year first hereinabove written.

The People's Bank, Taylorsville

By: [Signature]

Title: CEO

COMMONWEALTH OF KENTUCKY)
COUNTY OF SPENCER) SS.
)


The foregoing Subordination Of Mortgage Liens was acknowledged before me, a Notary Public, by STEVE BOWMAN as CEO of People's Bank, Taylorsville on this 30 day of OCTOBER, 2012.

My commission as Notary Public expires

AUGUST 24, 2013


Notary Public, AT LARGE

THIS INSTRUMENT WAS PREPARED BY:


Raymond B. Bannon
10801 Electron Drive Suite 102
Louisville, Kentucky 4099
(502) 459-9975

Schedule A

1. Mortgage to secure \$150,000.00, in favor of The People's Bank, Taylorsville, dated September 29, 2005, of record in Mortgage Book 1030, Page 121, in the office aforesaid.
2. Mortgage to secure \$30,541.00, in favor of The People's Bank, Taylorsville, dated December 26, 2007, of record in Mortgage Book 1198, Page 612, in the office aforesaid.

RETURN TO:
TITLE AGENCY SUPPORT, LLC
10600 TIMBERWOOD CIRCLE
SUITE 11
LOUISVILLE, KY 40223
ATTN: CONNIE MOELLER
PHONE: 502-738-4561

DOCUMENT NO: 498419
RECORDED: November 08, 2012 08:45:00 AM
TOTAL FEES: \$13.00
COUNTY CLERK: KEVIN MOONEY
DEPUTY CLERK: BEVERLY BOWLING
COUNTY: BULLITT CO CLERK

BOOK: D813 PAGES: 366 - 368

Little Agency Support

DECLARATION OF RESTRICTIVE COVENANTS FOR CONSERVATION

THIS DECLARATION OF RESTRICTIVE COVENANTS FOR CONSERVATION is made this 26 day of October, 2012 by Gary Moore and Marie Moore, each unmarried, (collectively "Declarant") whose address is.) 162 Red Oak Drive, Shepherdsville, Kentucky 40165

RECITALS

WHEREAS, Declarant is the sole owner in fee simple of certain real property located in Bullitt County, Kentucky, as more particularly shown described on *Exhibit A* on which it has granted a 47.006 acres easement designated Wetlands Easement "Being Granted" and shown on the survey attached hereto as *Exhibit B* (the "*Property*") , both of which are incorporated herein by reference.);

WHEREAS, the discharge of dredged and/or fill material into jurisdictional waters of the United States, including wetlands and streams, pursuant to Sections 401 and 404 of the Clean Water Act, requires compensatory mitigation; and

WHEREAS, as compensatory mitigation under Federal and State law for and in consideration of the Mitigation Banking Instrument ("*MBI*") approved by the Interagency Review Team ("*IRT*") through its chair, the U.S. Army Corps of Engineers, Louisville District ("*Corps*") and including the Kentucky Division of Water ("*KDOW*"), the U.S. Fish and Wildlife Services ("*USFWS*") and the Kentucky Department of Fish and Wildlife Resources ("*KDFWR*") and any successor agencies of the above, pursuant to Section 404 of the Clean Water Act (33 U.S.C. Sec. 1344) and the *Compensatory Mitigation for Losses of Aquatic Resources: Final Rule* (33 CFR Part 332) and in recognition of the continuing benefit to the permitted property, and for the protection of waters of the United States and scenic, resource, environmental, and other conservation values, Declarant has agreed to restore, establish and preserve bottomland hardwood forest wetland habitat and associated buffers. and place certain restrictive covenants on the Property in order that the Property shall remain substantially in its natural condition forever, and to grant a right of access and entry to the Property;

NOW THEREFORE, in consideration of the benefits to be derived by the Declarant and each and every subsequent owner and occupant of the Property, and as required mitigation for the discharge of dredged and/or fill material into waters of the United States, as authorized by the approved MBI, Declarant hereby makes this Declaration on the terms and conditions stated below.

1. **Purpose.** The purpose of this Declaration of Restrictive Covenants is to restrict the current and future use of the Property in perpetuity in order to protect aquatic resource functions and values, scenic, resource, environmental, and other conservation values, and conservation functions and ecological services; to establish the Property as open, common, and undeveloped conservation area; and to preserve the natural condition of the Property in perpetuity.

2. **Covenant Running with the Land.** Declarant hereby declares that the Property shall be bound by, held, transferred, sold, conveyed, leased, improved, hypothecated, occupied or otherwise disposed of and used subject to the rights of access and entry provision and property transfer provision of the following restrictive covenants, which shall be perpetual and run with the land and be binding on all the Declarant's heirs, executors, administrators, successors, assigns, lessees, or other persons, firms, associations, corporations or governmental entities having or hereafter acquiring any right, title, or interest in said Property or any part thereof; and that the Property shall be held, transferred, sold, conveyed, leased, improved, hypothecated, occupied or otherwise disposed of and used subject to the following restrictive covenants, which shall run with the land and be binding on all the Declarant's heirs, executors, administrators, successors, assigns (which are included in the term "Declarant" below), lessees, or other occupiers and users. The terms and conditions of the following restrictive covenants shall be both explicitly and implicitly included in any subsequent transfer, conveyance, or encumbrance affecting all or part of the Property. Any such transfer, conveyance or encumbrance shall set forth the terms and conditions of this document by reference to this document and its recorded location in accordance with paragraph 9 of this Declaration.

3. **Definitions.**

3.1 Natural Condition. The term "natural condition" shall mean the condition of the Property at the time of the declaration and as restored, created, enhanced, and preserved pursuant to the Mitigation Plan. The natural condition shall be evidenced in part by the Site Development Plan in the Mitigation Plan, which includes all relevant property lines, all existing man-made improvements and features, and major, distinct natural features such as waters of the United States. The natural condition of the Property may also be evidenced by:

- (a) A current aerial photograph of the Property at an appropriate scale taken as close as possible to the date the declaration is made; and
- (b) On-site photographs taken at appropriate locations on the Property, including major natural features.

3.2 Mitigation Plan. The term "**Mitigation Plan**" shall mean the plan approved by the MBI.

4. **Restrictions/Prohibitions.** Any activity on, or use of, the Property, which is or may become inconsistent with the purposes of this Declaration is prohibited. Without limiting the generality of the foregoing, the following activities are expressly prohibited except as provided for in the Declarant's Reserved Rights:

4.1 General/Topography. There shall be no filling, flooding, cultivating, excavating, earthmoving, grading, mining or drilling; no removal of natural materials; no dumping of materials; and no alteration of topography in any manner.

4.2 Waters and Wetlands. There shall be no draining, ditching, diking, dredging, channelizing, damming, pumping, or impounding; no changing the grade or elevation, impairing

or diverting the flow or circulation of waters, or reducing the reach of waters; and no other discharge or activity requiring a permit under applicable clean water or water pollution control laws and regulations, as amended.

4.3 Trees/Vegetation. There shall be no clearing, burning, cutting, mowing or destroying of trees or vegetation.

4.4 Non-Native/Exotic Species. There shall be no introduction of non-native or exotic species to the Property.

4.5 Uses. There shall be no agricultural, commercial, or industrial activity undertaken or allowed on the Property, including but not limited to grazing and mining. There shall be no horseback riding, whether on or off an established trail.

4.6 Structures. There shall be no construction, erection, or placement of buildings, billboards, signs, or any other temporary or permanent structure, nor any additions to existing structures.

4.7 Roads. There shall be no construction or building of new roads, trails, or other rights of way without the prior written approval by the Corps and Cabinet.

4.8 Off Road Vehicles. There shall be no use of off road vehicles, 4-wheel drive vehicles, all terrain vehicles, snowmobiles, or other types of motorized recreational vehicles except on existing roads and except as necessary to manage the Property.

4.9 Utilities. There shall be no construction or placement of utilities or related facilities without the prior written approval of the Corps and Cabinet.

4.10 Waste. There shall be no placement of refuse, wastes, sewage, dredged spoil, solid waste, incinerator residue, garbage, sewage sludge, munitions, chemical waste, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt, or industrial, municipal, or agricultural waste on the Property.

4.11 Pest Control. There shall be no application of pesticides or biological controls, including but not limited to insecticides, fungicides, rodenticides and herbicides, without prior written approval from the Corps and Cabinet.

5. Reserved Rights. Notwithstanding the foregoing Restrictions, the Declarant reserves for itself, its heirs, executors, administrators, successors and assigns the right to use the Property for all purposes not inconsistent with the purposes of these restrictive covenants. Further, the Declarant expressly reserves for itself, its heirs, executors, administrators, successors, and assigns the following rights, which may be exercised upon providing 30 days prior written notice to the Corps and Cabinet, except where expressly provided otherwise:

5.1 Wildlife and Forestry Management. Declarant reserves the right to naturally manage the Property to preserve and improve the existing forest and wildlife resources.

Declarant reserves the right to remove or trim vegetation hazardous to persons or property, and harvest and manage timber downed or damaged due to natural forces, such as fire, storms, insects, or infectious organisms, to the extent necessary to protect the environment. Such management activities shall be carried out only after approval by the Corps and Cabinet and in accordance with Best Management Practices as set out by the U.S. Forest Service or the Kentucky Division of Forestry.

5.2 Landscape Management. Declarant reserves the right to undertake landscaping necessary to prevent severe erosion or damage to the Property or portions thereof, or significant detriment to existing or permitted uses, to the extent such landscaping is consistent with preserving the natural condition of the Property. Such management activities shall be carried out only after approval by the Cabinet.

5.3 Recreation. Declarant reserves the right to engage in outdoor, non-commercial recreational activities, including hunting, fishing, and similar recreational or educational activities, consistent with cumulatively very small impacts and with the continuing natural condition of the Property, but excluding planting and burning. No prior written notice to the Corps and Cabinet is required.

5.4 Road Maintenance. Declarant reserves the right to maintain existing roads, trails, or other rights of way. Maintenance shall be limited to: removal or pruning of dead or hazardous vegetation; application of permeable materials (e.g., sand, gravel) necessary to correct or impede erosion; grading; replacement of culverts, water control structures, or bridges; and maintenance of roadside ditches.

5.5 Signs. Declarant reserves the right to erect signs on the Property to mark the Property as a protected area and to convey information on restricted use of the Property, including no trespassing signs, no mowing signs, temporary signs indicating the Property is for sale, signs identifying the trees, vegetation, wetlands or conservation ecological services of the Property, and signs identifying the owner.

5.6 Mitigation Measures. Declarant reserves the right to undertake restoration and mitigation measures required under the Mitigation Plan or otherwise required under law.

6. **Rights of Access and Entry.** The Declarant grants the Corps, Cabinet and their authorized agents an irrevocable and assignable right to enter in, on, over and across the Property to inspect and monitor the Property; to implement the Mitigation Plan or take corrective measures under the Mitigation Plan; to take any actions necessary to maintain or restore the natural condition of the Property; or to take any actions necessary to verify compliance with these restrictive covenants. The Declarant also grants the Corps, Cabinet, and authorized agents an irrevocable and assignable right to enter and exit over and across the Property as necessary to access the Property for the purposes listed above. No rights of access or entry to or use of any portion of the Property or Property is granted or conveyed to members of the general public by these restrictive covenants.

7. **Enforcement.** The Declarant grants the Corps and the Cabinet, as third party beneficiaries hereof, a discretionary right to enforce these restrictive covenants in a judicial action against any person or other entity violating or attempting to violate these restrictive covenants; provided, however, that no violation of these restrictive covenants shall result in forfeiture or reversion of title. In any enforcement action for violations of this Declaration, an enforcing agency shall be entitled to complete restoration of the Property for any violation, as well as any other remedy available under law or equity, such as injunctive relief and administrative, civil or criminal penalties. No omission or delay in acting by the Corps and/or Cabinet shall bar subsequent enforcement rights or constitute a waiver of any enforcement right. These enforcement rights are in addition to, and shall not limit, enforcement rights available under other provisions of law or equity, or under any applicable permit or certification. Nothing herein shall limit the right of the Corps to modify, suspend, or revoke the Permit. Nothing herein shall be construed to authorize the Corps or Cabinet to institute proceedings against the Declarant for changes to the Property due to acts of God, natural disasters, or unauthorized acts of third parties outside the control of the Declarant, so long as the compensatory mitigation is completed and determined by the Corps and Cabinet to be successful in accordance with the Mitigation Plan.

8. **Notice to Government.**

8.1 Any permit application, or request for certification or modification, which may affect the Property, made to any government entity with authority over wetlands or other waters of the United States, shall expressly reference and include a copy (with the recording stamp) of these restrictive covenants.

8.2 The Declarant shall provide the Corps and Cabinet with written notice of any legal action affecting this Declaration, including but not limited to foreclosure proceedings, tax sales, bankruptcy proceedings, zoning changes, adverse possession, abandonment, condemnation proceedings, and the exercise of the power of eminent domain. For any action that might result in this Declaration being voided or modified, such notice shall be provided at least sixty (60) days before such action would be taken.

9. **Property Transfers.** The Declarant shall include the following notice on all deeds, mortgages, plats, or any other legal instrument used to convey any interest in the Property and/or Property:

NOTICE: This Property is subject to a Declaration of Restrictive Covenants for Conservation dated 10-26-12, recorded in the Bullitt County Clerk's Office on 11-8-12 in Deed Book 813, Page 349 and enforceable by the U.S. Army Corps of Engineers and Kentucky Energy and Environment Cabinet, Department of Environmental Protection, Division of Water.

The Declarant shall provide the Corps and Cabinet with written notice of any such grant, transfer or conveyance of any interest in any or all of the Property at least sixty (60) days prior to the grant, transfer or conveyance. The notice shall include the name, address, and telephone number of the prospective transferee, a copy of the proposed deed or other documentation evidencing the

conveyance, and a survey map that shows the boundaries of the portion of the Property and/or Property being transferred. Failure to comply with this paragraph does not impair the validity or enforceability of these restrictive covenants.

10. Warranties.

10.1 The Declarant represents and warrants that:

- A. To the extent that other interests in the Property exist, the holders of such interests are identified on Exhibit C and have agreed to subordinate their interests in the Property to this Declaration, pursuant to the subordination agreement(s) recorded in Deed Book 813, Page 346;
- B. The Declarant has identified all other parties that hold any interest (e.g. encumbrances) in the Property and has notified such parties of the Declarant's intent to grant this Declaration;
- C. This Declaration will not materially violate or contravene or constitute a material default under any other agreement, document, or instrument to which the Declarant is a party, or by which the Declarant may be bound or affected;
- D. This Declaration will not materially violate or contravene any zoning law or other law regulating use of the Property; and
- E. This Declaration does not authorize a use of the Property that is otherwise prohibited by a recorded instrument that has priority over the Declaration.

10.2 The Declarant represents and warrants that, to the best of Declarant's knowledge:

- A. No substance defined, listed, or otherwise classified pursuant to any federal, state, or local law, or regulation, as hazardous, toxic, polluting, or otherwise contaminating to the water or soil, has been released, generated, treated, stored, used, disposed of, deposited, abandoned, or transported in, on, from, or across the Property;
- B. There are no underground storage tanks located on the Property whether presently in service or closed, abandoned, or decommissioned;
- C. The Property is in compliance with all federal, state, and local laws, regulations, and permits and there is no pending or threatening litigation in any way affecting, involving, or relating to the Property and its use; and
- D. The Property is not land-locked and there is access to the Property by road, dedication of pathway or by an access easement.

11. Notification. Any notice, request for approval, or other communication require by these restrictive covenants shall be sent by registered mail, pre-paid postage, to the following addresses (or such addresses as may be hereinafter specified by notice pursuant to this paragraph):

To Declarant: Gary Moore and Marie Moore
162 Red Oak Drive
Shepherdsville, Kentucky 40165

To Corps: U.S. Army Corps of Engineers
OP-FS, Room 752
P.O. Box 59
Louisville, KY 40201-0059

To Cabinet: 200 Fair Oaks Lane, Fourth Floor
Frankfort, KY 40601
Attn: Water Quality Certification Section Supervisor

12. Amendment. After recording, these restrictive covenants may only be amended by a recorded document signed by the Corps, Cabinet, and Declarant. Amendment shall be allowed at the discretion of the Corps and Cabinet, in consultation with resource agencies as appropriate, and then only in exceptional circumstances. Any amendment must be consistent with the requirements of Sections 401 and 404 of the Clean Water Act. There shall be no obligation to allow an amendment.

13. Termination. This Declaration is intended to be perpetual in nature and run with the land as set forth in paragraph 1 of this Declaration. However, if the Corps and Cabinet determine that the compensatory mitigation undertaken on the Property set forth in the Mitigation Plan is not successful and the alternative mitigation identified does not involve the Property, then the Declarant, Corps, and Cabinet may terminate this Declaration by written agreement.

14. Recording. Declarant shall record this Declaration in the official property records of the Office of the Bullitt County Clerk within thirty (30) days of execution of this Declaration by the Declarant, and shall, within thirty (30) days of recording, provide the Corps and the Cabinet with a copy of the recorded Declaration and exhibits. Declarant may re-record this instrument at any time as may be required to preserve its rights.

15. Successors in Interest. All references to the Corps and the Cabinet shall include successor governmental agencies, departments, or divisions, or any other successor entities prescribed by law.

16. Severability Provision. Should any separable part of these restrictive covenants be held contrary to law, unenforceable, or void, the remainder shall continue in full force and effect.

IN WITNESS WHEREOF, the Declarant has duly executed this Declaration effective on the date first written above, but actually on the date set forth below.

DECLARANT

By: Gary Moore
Gary Moore

10/26/12
Date

By: Marie Moore
Marie Moore

10/26/2012
Date

COMMONWEALTH OF KENTUCKY

COUNTY BULLITT.

Acknowledged, subscribed and sworn to before me by Gary Moore and Marie Moore, each unmarried this the 26 day of October, 2012

Betty R. Ashbaugh
NOTARY PUBLIC

My Commission Expires: 11-24-2012

* * *

THIS INSTRUMENT PREPARED BY:

Raymond B. Bannon
Raymond B. Bannon
Attorney at Law
10801 Electron Drive, Suite 102
Louisville, Kentucky 40299

8 BULLITT COUNTY
D813 PG356

EXHIBITS

- A. LEGAL DESCRIPTION
- B. PROPERTY SURVEY
- C. EXISTING LIENS AND INTERESTS

Exhibit A

DESCRIPTION

TRACT NO. 1: Located on the South side of Salt River and beginning at a forked elm on the bank of Salt River and running thence South 5° West 168 poles to a red oak in county road leading from Shepherdsville to Pitts Point, corner to P.T. Mumford; thence with said county road, South 61° West 22¾ poles to a red oak I said county road, corner to Isaac Rush; thence with his line North 36¾° West 127 poles to a stake; thence North 43° West 167-1/3 poles to a stake in a gut or hollow; thence North 76° West 20 poles to a sycamore and willow on the bank of Salt River, corner to Rush; thence up said river binding thereon to the place of beginning, containing 245 acres, more or less.


EXCEPTING THEREFROM SO MUCH of said property as was conveyed to Suburban Construction, by Deed of record in Deed Book 367, Page 218; Beechwood Estates, by Deed of record in Deed Book 425, Page 378; Gary and Lou Ann Moore, by Deed of record in Deed Book 453, Page 601; Bluegrass Saddle Club, by Deed of record in Deed Book 483, Page 688, and so much as was conveyed to Beechwood Estates, by Deed of record in Deed Book 571, Page 305, all in the office of the Clerk of Bullitt County, Kentucky.

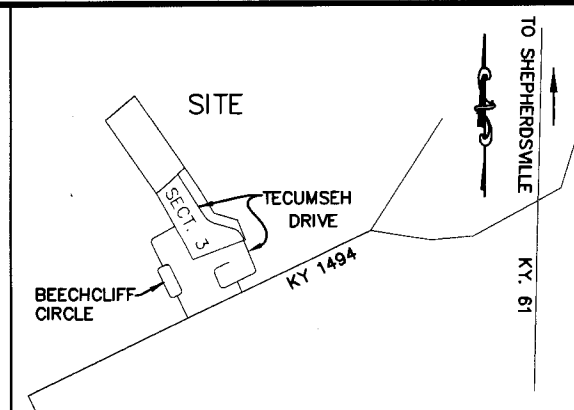
Being the remaining property acquired by Gary Dale Moore, by Deed dated August 19, 1974, of record in Deed Book 180, Page 212; acquired by Gary D. Moore, by Deed dated April 15, 1983, of record in Deed Book 256, Page 754; acquired by Gary Dale Moore, by Deed dated December 4, 2001, of record in Deed Book 539, Page 594; acquired by Gary Dale Moore, by Deed dated December 4, 2001, of record in Deed Book 539, Page 598, and acquired by Gary Dale Moore, by Deed dated January 25, 2002, of record in Deed Book 543, Page 795, all in said office.

Being the remaining property acquired by Marie Moore, by Deed dated July 11, 1974, of record in Deed Book 539, Page 598; by Deed dated December 4, 2001, of record in Deed Book 539, Page 594, and by Deed dated January 25, 2002, of record in Deed Book 543, Page 795, all in the office aforesaid.

NOTES:

1. THIS PLAT DOES NOT CONSTITUTE A BOUNDARY SURVEY AND SHOULD NOT BE USED AS SUCH.
2. THE BOUNDARY LINES SHOWN HEREON WERE DETERMINED FROM DEEDS OF RECORD AND HAVE NOT BEEN VERIFIED.
3. THIS PLAT IS SUBJECT TO EASEMENTS AND RESTRICTIONS WHETHER RECORDED OR NOT.

 DENOTES WETLANDS EASEMENT "BEING GRANTED"
AREA = 2,047,586.6 SQ. FT. OR 47.006 ACRES.

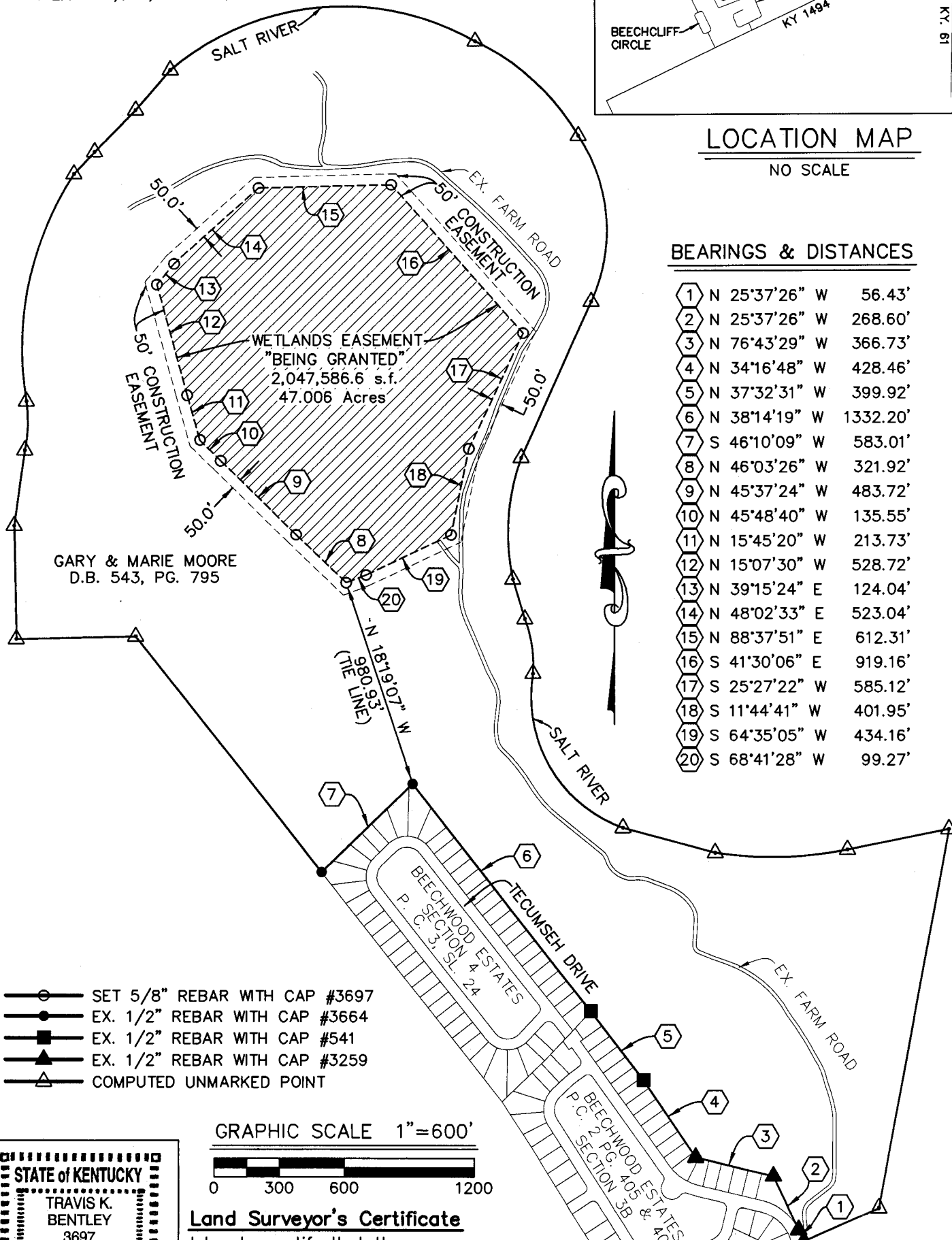


LOCATION MAP






NO SCALE

BEARINGS & DISTANCES

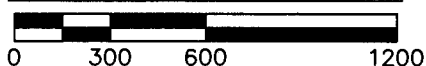
1	N 25°37'26" W	56.43'
2	N 25°37'26" W	268.60'
3	N 76°43'29" W	366.73'
4	N 34°16'48" W	428.46'
5	N 37°32'31" W	399.92'
6	N 38°14'19" W	1332.20'
7	S 46°10'09" W	583.01'
8	N 46°03'26" W	321.92'
9	N 45°37'24" W	483.72'
10	N 45°48'40" W	135.55'
11	N 15°45'20" W	213.73'
12	N 15°07'30" W	528.72'
13	N 39°15'24" E	124.04'
14	N 48°02'33" E	523.04'
15	N 88°37'51" E	612.31'
16	S 41°30'06" E	919.16'
17	S 25°27'22" W	585.12'
18	S 11°44'41" W	401.95'
19	S 64°35'05" W	434.16'
20	S 68°41'28" W	99.27'



GARY & MARIE MOORE
D.B. 543, PG. 795

-  SET 5/8" REBAR WITH CAP #3697
-  EX. 1/2" REBAR WITH CAP #3664
-  EX. 1/2" REBAR WITH CAP #541
-  EX. 1/2" REBAR WITH CAP #3259
-  COMPUTED UNMARKED POINT

GRAPHIC SCALE 1"=600'



Land Surveyor's Certificate

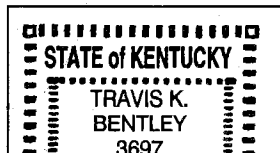


Exhibit C

1. Mortgage to secure \$150,000.00, in favor of The People's Bank, Taylorsville, dated September 29, 2005, of record in Mortgage Book 1030, Page 121, in the office aforesaid.
2. Mortgage to secure \$30,541.00, in favor of The People's Bank, Taylorsville, dated December 26, 2007, of record in Mortgage Book 1198, Page 612, in the office aforesaid. Affects Tract No. 1.

RETURN TO:
TITLE AGENCY SUPPORT, LLC
10600 TIMBERWOOD CIRCLE
SUITE 11
LOUISVILLE, KY 40223
ATTN: CONNIE MOELLER
PHONE: 502-736-4561

DOCUMENT NO: 498417
RECORDED: November 08, 2012 08:38:00 AM
TOTAL FEES: \$43.00
COUNTY CLERK: KEVIN MOONEY
DEPUTY CLERK: BEVERLY BOWLING
COUNTY: BULLITT CO CLERK
BOOK: D813 PAGES: 349 - 360

APPENDIX B

PROJECT TEAM QUALIFICATIONS

FLYNN CONTRACTING / REDWING ECOLOGICAL SERVICES, INC WETLAND MITIGATION EXPERIENCE

Redwing Ecological Services, Inc. (Redwing) has extensive experience with wetland mitigation projects throughout the midwest and southeast U.S., including Kentucky. Projects have involved all aspects of the mitigation process including:

- initial delineations and site assessments of mitigation potential
- permitting through various U.S. Army Corps of Engineers (USACE) Districts and various state water/wetland regulatory programs
- mitigation design from conceptual, to detailed grading and planting plans, to construction bid specifications
- coordination and oversight of all aspects of wetland mitigation site development including construction grading and planting
- monitoring of project success based on established performance standards
- coordinating remedial actions to correct project deficiencies
- coordinating with regulatory/resource agencies throughout the mitigation development, monitoring, and final approval process

Flynn is committed to the successful completion of this mitigation banking project and has been an established member of the greater Louisville business community for over 30 years. Flynn has contracted Redwing to direct the technical and regulatory approval aspects of natural habitat restoration on the sites. Flynn and Redwing have teamed on a number of successful wetland and stream mitigation projects over the past 13 years, including:

Enterprise Wetland Mitigation (Nelson County, Kentucky) – 88 acres of bottomland hardwood forest restoration on former crop fields [successfully completed]

Starkey Wetland Mitigation (Nelson County, Kentucky) – 60 acres of bottomland hardwood forest and emergent marsh restoration on former crop fields [successfully implemented and monitoring underway]

Shepherds Crossing (Bullitt County, Kentucky) – 10 acres of bottomland hardwood forest and emergent wetland restoration on former floodplain farm fields [successfully implemented and monitoring underway]

Hamburg Stormwater Wetlands (Fayette County, Kentucky) – 6 acres of constructed emergent wetlands establishment and adjacent riparian forest restoration [successfully completed]

Cedar Grove Stream Mitigation (Bullitt County, Kentucky) – stream relocation and restoration/enhancement [successfully completed]

480 Travel Plaza (Bullitt County, Kentucky) – stream relocation/restoration [successfully completed]

Thus, Flynn and Redwing have extensive experience on mitigation projects in the region and their proven teaming relationship will help ensure the success of the SRMB project.

Redwing and its principals have conducted hundreds of wetland mitigation projects for a very diverse portfolio of clients and in a variety of natural settings. Redwing has extensive experience with wetland and stream mitigation in Kentucky and its principals have over 22 years of experience with mitigation

permitting, design, implementation, and monitoring in the region. Redwing's involvement will provide a consistent quality approach to establishment of a diverse natural areas complex on the mitigation sites.

West Kentucky Wetwoods Mitigation Bank (McCracken County, Kentucky) – Redwing coordinated the establishment of a 76-acre wetland mitigation bank site along Obion Creek that will serve the four rivers region of western Kentucky. Service provided included site assessment, permitting, wetland mitigation design, oversight of construction and planting activities, and monitoring. Initial credits have been released, implementation is complete, and monitoring is underway.

G&L Mitigation Bank (Nelson County, Kentucky) – Redwing provided initial site assessment, bank permitting, construction and planting oversight, monitoring and agency coordination services on a 60-acre bank site in the Salt River Basin. The project involved restoration of bottomland hardwood forest on former cropland. The monitoring has been successfully completed, the site has been released and all credits have been sold.

Licking River Advanced Mitigation Site (Bath County, Kentucky) – Redwing provided the Kentucky Transportation Cabinet with services related to the establishment of a wetland mitigation site on 60 acres of cropland and pasture. Redwing provided initial site assessment, design, construction and planting coordination/oversight, and monitoring for the development of bottomland hardwood and emergent wetland habitats. Additional services have included invasive plant control and site maintenance activities. The project has been successfully implemented and the monitoring period is underway.

Rolling Fork Mitigation Bank (Nelson County, Kentucky) – Redwing has provided site assessment, mitigation design and oversight of construction for the development of a mitigation bank. The project included restoration of a wooded wetland and emergent marsh habitat on 106 acres of former cropland. The bank has received authorization from the IRT, implementation activities have been completed, and monitoring is underway.

Renaissance Zone Mitigation Site (Nelson County, Kentucky) – Redwing provided mitigation site selection, design, permitting and construction/planting oversight for development of bottomland hardwood forest and emergent marsh wetland habitats on 60 acres of former cropland. The site has been successfully implemented and the monitoring period is underway.

Welch Creek Mitigation Bank (Butler County, Kentucky) – Redwing has been contracted to develop a wetland mitigation bank for the Kentucky Transportation Cabinet on a 90-acre site consisting of existing cropland. The site assessment work has been completed and the banking instrument is being prepared.

Livingston County Mitigation Bank (Livingston County, Kentucky) – Redwing has been contracted to develop a wetland mitigation bank for the Kentucky Transportation Cabinet on a site along the Ohio River. The site assessment work has been completed and the banking instrument is being prepared.

Mattingly Property Development (Jefferson County, Kentucky) – Redwing was contracted to obtain the required wetland permits for the proposed 51.4-acre development site through the USACE and KDOW. Redwing developed a mitigation plan to compensate for unavoidable jurisdictional wetland impacts. The mitigation phase of the project included implementation (construction and planting), preparation of a Completion Report, and monitoring (for the required five year period) of the wetland mitigation area on the site. The mitigation has been successfully completed.

Outer Loop Mitigation Site (Jefferson and Nelson Counties, Kentucky) – Redwing principals provided site selection, detailed design and regulatory coordination for development of a two phase mitigation project. It included creation of 175 acres of wooded wetland habitat in a constructed basin setting and restoration of a 300-acre bottomland hardwood forest wetland complex on former cropland as compensation for impacts associated with landfill expansion. The site has been successfully implemented and has completed the required monitoring.

Adams Center Mitigation (Allen County, Indiana) – Redwing provided assessment, regulatory coordination, implementation and monitoring services to bring a failed emergent/scrub-shrub wetland creation project into compliance. The project has been successfully completed.

Adams Center Mitigation Bank (Allen County, Indiana) – Redwing provided assessment, mitigation design and agency coordination for the potential development of a mitigation bank on existing cropland and pasture in Ft. Wayne.

West Franklin Coal Transport Facility (Posey County, Indiana) – Redwing provided site assessment, design and regulatory coordination for the approval of 15 acres of wetland mitigation on existing cropland as compensation for a combination of isolated and jurisdictional wetland impacts. The mitigation has been implemented and monitoring is underway.

West Camden Landfill (Benton County, Tennessee) – Redwing provided wetland mitigation design, implementation and monitoring in support of 404/401 permits for two landfill expansion projects. The first mitigation project has been built and the five years of mitigation monitoring have been successfully completed. The second mitigation plan has been implemented and is in the monitoring process.

Volo Pipeline (DuPage County, Illinois) – Redwing provided design, oversight and monitoring services for restoration of existing wetland habitats following construction of a regional natural gas pipeline. The project has been successfully completed.

Blacklick Creek Mitigation Site (Franklin County, Ohio) - Redwing principals provided coordination and oversight of mitigation construction, mitigation monitoring, and extensive agency coordination to resolve an existing consent order. The project involved development of wooded wetland and emergent marsh habitat on a 85 acre former sod farm. All mitigation has been successfully completed.

Germantown Mall (Memphis, Tennessee) – Redwing principals provided wetland and stream assessment and permitting, as well as mitigation design and construction oversight. The project has been successfully completed.

APPENDIX C

WETLAND DELINEATION RESULTS

- **Wetland Determination Data Sheets**
- **Preliminary Jurisdictional Determination Form**
- **Delineation Map (Figure C1)**

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont

Project/Site: <u>Salt River Mitigation Bank - Moore Property</u>	City/County: <u>Bullitt</u>	Sampling Date: <u>1/23/13</u>
Applicant/Owner: <u>Flynn Contracting</u>	State: <u>Kentucky</u>	Sampling Point: <u>DP1</u>
Investigator(s): <u>R. Fangman; L. Darnell</u>	Section, Township, Range: _____	
Landform (hillslope, terrace, etc.): <u>swale</u>	Local relief (concave, convex, none): <u>concave</u>	Slope (%): <u><1%</u>
Subregion (LRR or MLRA) <u>LRR N</u>	Lat.: <u>37.992944°N</u>	Long.: <u>85.738056°W</u>
Soil Map Unit Name: <u>Newark silt loam, frequently flooded</u>	Datum: _____	
Soil Map Unit Name: <u>Newark silt loam, frequently flooded</u>		NWI Classification: _____
Are climatic/hydrologic conditions of the site typical for this time of the year? <u>Yes</u> (If no, explain in remarks)		
Are vegetation _____, soil _____, or hydrology _____ significantly disturbed?		Are "normal circumstances" present? <u>Yes</u>
Are vegetation _____, soil _____, or hydrology _____ naturally problematic?		(If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>Yes</u> Hydric soil present? <u>Yes</u> Wetland hydrology present? <u>Yes</u>	Is the Sampled Area within a Wetland? <u>Yes</u>
Remarks: (Explain alternative procedures here or in a separate report.)	

HYDROLOGY

Wetland Hydrology Indicators			
Primary Indicators (minimum of one is required; check all that apply)		Secondary Indicators (minimum of two required)	
<input type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input checked="" type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)	
Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u>NA</u> Water table present? Yes <u>X</u> No <u> </u> Depth (inches): <u>11</u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u>4</u> (includes capillary fringe)		Wetland hydrology present? <u>Yes</u>	
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks:			

VEGETATION (Four Strata) -- Use scientific names of plants

Sampling Point: DP1

Tree Stratum					Plot Size (30')		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
							Total Cover		

Sapling/Shrub Stratum					Plot Size (15')		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
						5	Total Cover		

Herb Stratum					Plot Size (5')		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
						74	Total Cover		

Woody Vine Stratum					Plot Size (30')		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
							Total Cover		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across all Strata: 2 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species x 1 =

FACW species x 2 =

FAC species x 3 =

FACU species x 4 =

UPL species x 5 =

Column totals (A) (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

 1 - Rapid test for hydrophytic vegetation

X 2 - Dominance test is >50%

 3 - Prevalence index is ≤3.0*

 4 - Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

 Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Definitions of Four Vegetation Strata

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present?

 Yes

Remarks: (Include photo numbers here or on a separate sheet)

SOIL

Sampling Point: DP1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-7	10YR 5/2	65	10YR 5/4	20	C	M	silty clay loam	
			10YR 5/8	15	C	M		
7-14	10YR 6/2	55	10YR 5/4	25	C	M	silty clay loam	
			10YR 5/8	20	C	M		

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains - ²Location: PL=Lining, M=Matrix

Hydric Soil Indicators:

Indicators for Problematic Hydric Soils:

- | | | |
|---|--|--|
| <input type="checkbox"/> Histisol (A1) | <input type="checkbox"/> Dark Surface (S7) | <input type="checkbox"/> 2 cm Muck (A10) (MLRA 147) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Polyvalue Below Surface (S9) (MLRA 147, 148) | <input type="checkbox"/> Coast Prairie Redox (A16) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148) | <input type="checkbox"/> (MLRA 147, 148) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) | <input type="checkbox"/> Piedmont Floodplain Soils (F19) |
| <input type="checkbox"/> Stratified Layers (A5) | <input checked="" type="checkbox"/> Depleted Matrix (F3) | <input type="checkbox"/> (MLRA 136, 147) |
| <input type="checkbox"/> 2 cm Muck (A10) (LRR N) | <input type="checkbox"/> Redox Dark Surface (F6) | <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Dark Surface (F7) | <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Redox Depressions (F8) | |
| <input type="checkbox"/> Sandy Muck Mineral (S1) (LRR,N | <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N | |
| <input type="checkbox"/> MLRA 147, 148) | <input type="checkbox"/> MLRA 136) | |
| <input type="checkbox"/> Sandy Gley Matrix (S4) | <input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122) | |
| <input type="checkbox"/> Sandy Redox (S5) | <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148) | |
| <input type="checkbox"/> Stripped Matrix (S6) | <input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147) | |

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric soil present?

Yes

Remarks:

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont

Project/Site: Salt River Mitigation Bank - Moore Property City/County: Bullitt Sampling Date: 1/23/13

Applicant/Owner: Flynn Contracting State: Kentucky Sampling Point: DP2

Investigator(s): R. Fangman; L. Darnell Section, Township, Range: _____

Landform (hillslope, terrace, etc.): slight slope Local relief (concave, convex, none): convex Slope (%): <1%

Subregion (LRR or MLRA) LRR N Lat.: 37.992936°N Long.: 85.737919°W Datum: _____

Soil Map Unit Name: Newark silt loam, frequently flooded NWI Classification: _____

Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)

Are vegetation _____, soil _____, or hydrology _____ significantly disturbed? Are "normal circumstances" present? Yes

Are vegetation _____, soil _____, or hydrology _____ naturally problematic? (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>No</u>	Is the Sampled Area within a Wetland? <u>No</u>
Hydric soil present? <u>Yes</u>	
Wetland hydrology present? <u>No</u>	
Remarks: (Explain alternative procedures here or in a separate report.)	

HYDROLOGY

Wetland Hydrology Indicators			
Primary Indicators (minimum of one is required; check all that apply)		Secondary Indicators (minimum of two required)	
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)	
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)	
		<input type="checkbox"/> FAC-Neutral Test (D5)	

Field Observations:				Wetland hydrology present? <u>No</u>
Surface water present?	Yes <u> </u>	No <u>X</u>	Depth (inches): <u>NA</u>	
Water table present?	Yes <u> </u>	No <u>X</u>	Depth (inches): <u>>14</u>	
Saturation present? (includes capillary fringe)	Yes <u> </u>	No <u>X</u>	Depth (inches): <u>>14</u>	
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:				
Remarks:				

VEGETATION (Four Strata) -- Use scientific names of plants

Sampling Point: DP2

Tree Stratum					Plot Size (30')		Absolute % Cover	Dominant Species	Indicator Staus
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
							= Total Cover		

Sapling/Shurb Stratum					Plot Size (15')		Absolute % Cover	Dominant Species	Indicator Staus
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
							= Total Cover		

Herb Stratum					Plot Size (5')		Absolute % Cover	Dominant Species	Indicator Staus
1	Setaria faberi					40	Yes	UPL	
2	Persicaria cf. hydropiperoides					20	Yes	OBL	
3	Carex frankii					8	No	OBL	
4	Bidens frondosa					4	No	FACW	
5	Erigeron annuus					2	No	FACU	
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
						74	= Total Cover		

Woody Vine Stratum					Plot Size (30')		Absolute % Cover	Dominant Species	Indicator Staus
1									
2									
3									
4									
5									
							= Total Cover		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across all Strata: 2 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species x 1 =

FACW species x 2 =

FAC species x 3 =

FACU species x 4 =

UPL species x 5 =

Column totals (A) (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- 1 - Rapid test for hydrophytic vegetation
- 2 - Dominance test is >50%
- 3 - Prevalence index is ≤3.0*
- 4 - Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet)

 Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Definitions of Four Vegetation Strata

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? No

Remarks: (Include photo numbers here or on a separate sheet)

SOIL

Sampling Point: DP2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

[illegible]

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains - ²Location: PL=Lining, M=Matrix

Hydric Soil Indicators:

Indicators for Problematic Hydric Soils:

- | | | |
|---|--|--|
| <input type="checkbox"/> Histisol (A1) | <input type="checkbox"/> Dark Surface (S7) | <input type="checkbox"/> 2 cm Muck (A10) (MLRA 147) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Polyvalue Below Surface (S9) (MLRA 147, 148) | <input type="checkbox"/> Coast Prairie Redox (A16) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148) | <input type="checkbox"/> (MLRA 147, 148) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) | <input type="checkbox"/> Piedmont Floodplain Soils (F19) |
| <input type="checkbox"/> Stratified Layers (A5) | <input checked="" type="checkbox"/> Depleted Matrix (F3) | <input type="checkbox"/> (MLRA 136, 147) |
| <input type="checkbox"/> 2 cm Muck (A10) (LRR N) | <input type="checkbox"/> Redox Dark Surface (F6) | <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Dark Surface (F7) | <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Redox Depressions (F8) | |
| <input type="checkbox"/> Sandy Muck Mineral (S1) (LRR,N) | <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N) | |
| <input type="checkbox"/> MLRA 147, 148) | <input type="checkbox"/> MLRA 136) | |
| <input type="checkbox"/> Sandy Gley Matrix (S4) | <input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122) | |
| <input type="checkbox"/> Sandy Redox (S5) | <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148) | |
| <input type="checkbox"/> Stripped Matrix (S6) | <input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147) | |
- *Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric soil present? Yes

Remarks:

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont

Project/Site: Salt River Mitigation Bank - Moore Property City/County: Bullitt Sampling Date: 1/23/13

Applicant/Owner: Flynn Contracting State: Kentucky Sampling Point: DP3

Investigator(s): R. Fangman; L. Darnell Section, Township, Range: _____

Landform (hillslope, terrace, etc.): swale Local relief (concave, convex, none): concave Slope (%): <1%

Subregion (LRR or MLRA) LRR N Lat.: 37.991933°N Long.: 85.738843°W Datum: _____

Soil Map Unit Name: Newark silt loam, frequently flooded NWI Classification: _____

Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)

Are vegetation _____, soil _____, or hydrology _____ significantly disturbed? Are "normal circumstances" present? Yes

Are vegetation _____, soil _____, or hydrology _____ naturally problematic? (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>Yes</u>	Is the Sampled Area within a Wetland? <u>Yes</u>
Hydric soil present? <u>Yes</u>	
Wetland hydrology present? <u>Yes</u>	
Remarks: (Explain alternative procedures here or in a separate report.)	

HYDROLOGY

Wetland Hydrology Indicators			
Primary Indicators (minimum of one is required; check all that apply)		Secondary Indicators (minimum of two required)	
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)	
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)	
		<input checked="" type="checkbox"/> FAC-Neutral Test (D5)	

Field Observations:				Wetland hydrology present? <u>Yes</u>
Surface water present?	Yes <u> </u>	No <u>X</u>	Depth (inches): <u>NA</u>	
Water table present?	Yes <u>X</u>	No <u> </u>	Depth (inches): <u>7</u>	
Saturation present?	Yes <u>X</u>	No <u> </u>	Depth (inches): <u>4</u>	
(includes capillary fringe)				
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:				
Remarks:				

VEGETATION (Four Strata) -- Use scientific names of plants

Sampling Point: DP3

Tree Stratum					Plot Size (30')		Absolute % Cover	Dominant Species	Indicator Staus
1	<i>Fraxinus pennsylvanica</i>						15	Yes	FACW
2									
3									
4									
5									
6									
7									
8									
9									
10									
						15	=	Total Cover	

Sapling/Shrub Stratum					Plot Size (15')		Absolute % Cover	Dominant Species	Indicator Staus
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
							=	Total Cover	

Herb Stratum					Plot Size (5')		Absolute % Cover	Dominant Species	Indicator Staus
1	<i>Phalaris arundinacea</i>						95	Yes	FACW
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
						95	=	Total Cover	

Woody Vine Stratum					Plot Size (30')		Absolute % Cover	Dominant Species	Indicator Staus
1									
2									
3									
4									
5									
							=	Total Cover	

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across all Strata: 2 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species x 1 =

FACW species x 2 =

FAC species x 3 =

FACU species x 4 =

UPL species x 5 =

Column totals (A) (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

 1 - Rapid test for hydrophytic vegetation

X 2 - Dominance test is >50%

 3 - Prevalence index is ≤3.0*

 4 - Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

 Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Definitions of Four Vegetation Strata

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present?

 Yes

Remarks: (Include photo numbers here or on a separate sheet)

SOIL

Sampling Point: DP3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

[illegible]

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains - ²Location: PL=Lining, M=Matrix

Hydric Soil Indicators:

Indicators for Problematic Hydric Soils:

- | | | |
|--|--|--|
| <input type="checkbox"/> Histisol (A1) | <input type="checkbox"/> Dark Surface (S7) | <input type="checkbox"/> 2 cm Muck (A10) (MLRA 147) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Polyvalue Below Surface (S9) (MLRA 147, 148) | <input type="checkbox"/> Coast Prairie Redox (A16) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148) | <input type="checkbox"/> (MLRA 147, 148) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) | <input type="checkbox"/> Piedmont Floodplain Soils (F19) |
| <input type="checkbox"/> Stratified Layers (A5) | <input checked="" type="checkbox"/> Depleted Matrix (F3) | <input type="checkbox"/> (MLRA 136, 147) |
| <input type="checkbox"/> 2 cm Muck (A10) (LRR N) | <input type="checkbox"/> Redox Dark Surface (F6) | <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Dark Surface (F7) | <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Redox Depressions (F8) | |
| <input type="checkbox"/> Sandy Muck Mineral (S1) (LRR,N | <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N | |
| <input type="checkbox"/> MLRA 147, 148) | <input type="checkbox"/> MLRA 136) | |
| <input type="checkbox"/> Sandy Gley Matrix (S4) | <input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122) | |
| <input type="checkbox"/> Sandy Redox (S5) | <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148) | |
| <input type="checkbox"/> Stripped Matrix (S6) | <input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147) | |
- *Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric soil present? Yes

Remarks:

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont

Project/Site: Salt River Mitigation Bank - Moore Property City/County: Bullitt Sampling Date: 1/23/13

Applicant/Owner: Flynn Contracting State: Kentucky Sampling Point: DP4

Investigator(s): R. Fangman; L. Darnell Section, Township, Range: _____

Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): convex Slope (%): ~2%

Subregion (LRR or MLRA) LRR N Lat.: 37.99179°N Long.: 85.73909°W Datum: _____

Soil Map Unit Name: Newark silt loam, frequently flooded NWI Classification: _____

Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)

Are vegetation _____, soil _____, or hydrology _____ significantly disturbed? Are "normal circumstances" present? Yes

Are vegetation _____, soil _____, or hydrology _____ naturally problematic? (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>No</u>	Is the Sampled Area within a Wetland? <u>No</u>
Hydric soil present? <u>No</u>	
Wetland hydrology present? <u>No</u>	
Remarks: (Explain alternative procedures here or in a separate report.)	

HYDROLOGY

Wetland Hydrology Indicators			
Primary Indicators (minimum of one is required; check all that apply)		Secondary Indicators (minimum of two required)	
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)	
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)	
		<input type="checkbox"/> FAC-Neutral Test (D5)	

Field Observations:				Wetland hydrology present? <u>No</u>
Surface water present?	Yes <u> </u>	No <u>X</u>	Depth (inches): <u>NA</u>	
Water table present?	Yes <u> </u>	No <u>X</u>	Depth (inches): <u>>14</u>	
Saturation present?	Yes <u> </u>	No <u>X</u>	Depth (inches): <u>>14</u>	
(includes capillary fringe)				
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:				
Remarks:				

VEGETATION (Four Strata) -- Use scientific names of plants

Sampling Point: DP4

Tree Stratum					Plot Size (30')		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
							Total Cover		

Sapling/Shrub Stratum					Plot Size (15')		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
							Total Cover		

Herb Stratum					Plot Size (5')		Absolute % Cover	Dominant Species	Indicator Status
1	<i>Cerastium cf. fontanum</i>					15	Yes	FACU	
2	<i>Lamium purpureum</i>					10	Yes	UPL	
3	<i>Zea mays</i>					5	No	UPL	
4	<i>Sorghum halepense</i>					5	No	FACU	
5	<i>Trifolium repens</i>					4	No	FACU	
6	<i>Setaria faberi</i>					3	No	UPL	
7	<i>Amaranthus sp.</i>					2	No		
8									
9									
10									
11									
12									
13									
14									
15									
						44	Total Cover		

Woody Vine Stratum					Plot Size (30')		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
							Total Cover		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across all Strata: 2 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species x 1 =

FACW species x 2 =

FAC species x 3 =

FACU species x 4 =

UPL species x 5 =

Column totals (A) (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

 1 - Rapid test for hydrophytic vegetation

 2 - Dominance test is >50%

 3 - Prevalence index is ≤3.0*

 4 - Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

 Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Definitions of Four Vegetation Strata

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present?

No

Remarks: (Include photo numbers here or on a separate sheet)

SOIL

Sampling Point: DP4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

[illegible]

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains - ²Location: PL=Lining, M=Matrix

Hydric Soil Indicators:

Indicators for Problematic Hydric Soils:

- | | | |
|--|--|--|
| <div> <div>Histisol (A1)</div> <div>Histic Epipedon (A2)</div> <div>Black Histic (A3)</div> <div>Hydrogen Sulfide (A4)</div> <div>Stratified Layers (A5)</div> <div>2 cm Muck (A10) (LRR N)</div> <div>Depleted Below Dark Surface (A11)</div> <div>Thick Dark Surface (A12)</div> <div>Sandy Muck Mineral (S1) (LRR,N MLRA 147, 148)</div> <div>Sandy Gley Matrix (S4)</div> <div>Sandy Redox (S5)</div> <div>Stripped Matrix (S6)</div> </div> | <div> <div>Dark Surface (S7)</div> <div>Polyvalue Below Surface (S9) (MLRA 147, 148)</div> <div>Thin Dark Surface (S9) (MLRA 147, 148)</div> <div>Loamy Gleyed Matrix (F2)</div> <div>Depleted Matrix (F3)</div> <div>Redox Dark Surface (F6)</div> <div>Depleted Dark Surface (F7)</div> <div>Redox Depressions (F8)</div> <div>Iron-Manganese Masses (F12) (LRR N MLRA 136)</div> <div>Umbric Surface (F13) (MLRA 136, 122)</div> <div>Piedmont Floodplain Soils (F19) (MLRA 148)</div> <div>Red Parent Material (F21) (MLRA 127, 147)</div> </div> | <div> <div>2 cm Muck (A10) (MLRA 147)</div> <div>Coast Prairie Redox (A16) (MLRA 147, 148)</div> <div>Piedmont Floodplain Soils (F19) (MLRA 136, 147)</div> <div>Very Shallow Dark Surface (TF12)</div> <div>Other (Explain in Remarks)</div> </div> |
| <div> <div>*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or</div> </div> | | |

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric soil present? No

Remarks:

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont

Project/Site: Salt River Mitigation Bank - Moore Property City/County: Bullitt Sampling Date: 1/23/13

Applicant/Owner: Flynn Contracting State: Kentucky Sampling Point: DP5

Investigator(s): R. Fangman; L. Darnell Section, Township, Range: _____

Landform (hillslope, terrace, etc.): swale Local relief (concave, convex, none): concave Slope (%): ~1%

Subregion (LRR or MLRA) LRR N Lat.: 37.990819°N Long.: 85.740293°W Datum: _____

Soil Map Unit Name: Markland silty clay, occasionally flooded, 10-30% slopes, severely eroded NWI Classification: _____

Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)

Are vegetation _____, soil _____, or hydrology _____ significantly disturbed? Are "normal circumstances" present? Yes

Are vegetation _____, soil _____, or hydrology _____ naturally problematic? (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>Yes</u>	Is the Sampled Area within a Wetland? <u>No</u>
Hydric soil present? <u>No</u>	
Wetland hydrology present? <u>Yes</u>	
Remarks: (Explain alternative procedures here or in a separate report.)	

HYDROLOGY

Wetland Hydrology Indicators			
Primary Indicators (minimum of one is required; check all that apply)		Secondary Indicators (minimum of two required)	
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)	
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)	
		<input checked="" type="checkbox"/> FAC-Neutral Test (D5)	

Field Observations:				Wetland hydrology present? <u>Yes</u>
Surface water present?	Yes <u> </u>	No <u>X</u>	Depth (inches): <u>NA</u>	
Water table present?	Yes <u>X</u>	No <u> </u>	Depth (inches): <u>8</u>	
Saturation present? (includes capillary fringe)	Yes <u>X</u>	No <u> </u>	Depth (inches): <u>8</u>	
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:				
Remarks:				

VEGETATION (Four Strata) -- Use scientific names of plants

Sampling Point: DP5

Tree Stratum					Plot Size (30')		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
							Total Cover		

Sapling/Shrub Stratum					Plot Size (15')		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
							Total Cover		

Herb Stratum					Plot Size (5')		Absolute % Cover	Dominant Species	Indicator Status
1	Ambrosia trifida					50	Yes	FAC	
2	Bidens frondosa					15	No	FACW	
3	Lysimachia nummularia					8	No	FACW	
4	Persicaria cf. hydropiperoides					8	No	OBL	
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
						81	Total Cover		

Woody Vine Stratum					Plot Size (30')		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
							Total Cover		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across all Strata: 1 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species x 1 =

FACW species x 2 =

FAC species x 3 =

FACU species x 4 =

UPL species x 5 =

Column totals (A) (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

 1 - Rapid test for hydrophytic vegetation

X 2 - Dominance test is >50%

 3 - Prevalence index is ≤3.0*

 4 - Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

 Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Definitions of Four Vegetation Strata

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present?

Yes

Remarks: (Include photo numbers here or on a separate sheet)

SOIL

Sampling Point: DP5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

[illegible]

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains - ²Location: PL=Lining, M=Matrix

Hydric Soil Indicators:

Indicators for Problematic Hydric Soils:

- | | | |
|---|--|--|
| <input type="checkbox"/> Histisol (A1) | <input type="checkbox"/> Dark Surface (S7) | <input type="checkbox"/> 2 cm Muck (A10) (MLRA 147) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Polyvalue Below Surface (S9) (MLRA 147, 148) | <input type="checkbox"/> Coast Prairie Redox (A16) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148) | <input type="checkbox"/> (MLRA 147, 148) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) | <input type="checkbox"/> Piedmont Floodplain Soils (F19) |
| <input type="checkbox"/> Stratified Layers (A5) | <input type="checkbox"/> Depleted Matrix (F3) | <input type="checkbox"/> (MLRA 136, 147) |
| <input type="checkbox"/> 2 cm Muck (A10) (LRR N) | <input type="checkbox"/> Redox Dark Surface (F6) | <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Dark Surface (F7) | <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Redox Depressions (F8) | |
| <input type="checkbox"/> Sandy Muck Mineral (S1) (LRR,N | <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N | |
| <input type="checkbox"/> MLRA 147, 148) | <input type="checkbox"/> MLRA 136) | |
| <input type="checkbox"/> Sandy Gley Matrix (S4) | <input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122) | |
| <input type="checkbox"/> Sandy Redox (S5) | <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148) | |
| <input type="checkbox"/> Stripped Matrix (S6) | <input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147) | |
- *Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric soil present? No

Remarks:

PRELIMINARY JURISDICTIONAL DETERMINATION FORM

BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR PRELIMINARY JURISDICTIONAL DETERMINATION (JD):

July 3, 2013

B. NAME AND ADDRESS OF PERSON REQUESTING PRELIMINARY JD:

Mr. Jim Rice
Flynn Contracting
1213 Outer Loop
Louisville, Kentucky 40219

Represented by:
Redwing Ecological Services, Inc.
1139 South Fourth Street
Louisville, Kentucky 40203

C. DISTRICT OFFICE, FILE NAME, AND NUMBER: Louisville District – CELRL-OP-FS, Salt River Mitigation Bank, Bullitt County, KY, LRL-2012-954-pgj

D. PROJECT LOCATION(S) AND BACKGROUND INFORMATION:

The site is located the left descending floodplain of the Salt River approximately one mile south of Shepherdsville, Kentucky.

(USE THE ATTACHED TABLE TO DOCUMENT MULTIPLE WATERBODIES AT DIFFERENT SITES)

State: Kentucky

County/parish/borough: Bullitt

City: Shepherdsville

Center coordinates of site (lat/long in degree decimal format): Lat. N 37.99193°, Long W 85.73884°
Name of nearest waterbody: Salt River

Identify (estimate) amount of waters in the review area:

Non-wetland waters: linear feet and/or acre.

Stream Flow:

Cowardin Class:

Wetlands: 0.467 acre.

Cowardin Class: PEM1

Name of any water bodies on the site that have been identified as Section 10 waters:

Tidal: N/A

Non-Tidal: N/A

E. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):

☐ Office (Desk) Determination. Date:

☐ Field Determination. Date(s):

1. The Corps of Engineers believes that there may be jurisdictional waters of the United States on the subject site, and the permit applicant or other affected party who requested this preliminary JD is hereby advised of his or her option to request and obtain an approved jurisdictional determination (JD) for that site. Nevertheless, the permit applicant or other person who requested this preliminary JD has declined to exercise the option to obtain an approved JD in this instance and at this time.

2. In any circumstance where a permit applicant obtains an individual permit, or a Nationwide General Permit (NWP) or other general permit verification requiring "pre-construction notification" (PCN), or requests verification for a non-reporting NWP or other general permit, and the permit applicant has not requested an approved JD for the activity, the permit applicant is hereby made aware of the following: (1) the permit applicant has elected to seek a permit authorization based on a preliminary JD, which does not make an official determination of jurisdictional waters; (2) that the applicant has the option to request an approved JD before accepting the terms and conditions of the permit authorization, and that basing a permit authorization on an approved JD could possibly result in less compensatory mitigation being required or different special

conditions; (3) that the applicant has the right to request an individual permit rather than accepting the terms and conditions of the NWP or other general permit authorization; (4) that the applicant can accept a permit authorization and thereby agree to comply with all the terms and conditions of that permit, including whatever mitigation requirements the Corps has determined to be necessary; (5) that undertaking any activity in reliance upon the subject permit authorization without requesting an approved JD constitutes the applicant's acceptance of the use of the preliminary JD, but that either form of JD will be processed as soon as is practicable; (6) accepting a permit authorization (e.g., signing a proffered individual permit) or undertaking any activity in reliance on any form of Corps permit authorization based on a preliminary JD constitutes agreement that all wetlands and other water bodies on the site affected in any way by that activity are jurisdictional waters of the United States, and precludes any challenge to such jurisdiction in any administrative or judicial compliance or enforcement action, or in any administrative appeal or in any Federal court; and (7) whether the applicant elects to use either an approved JD or a preliminary JD, that JD will be processed as soon as is practicable. Further, an approved JD, a proffered individual permit (and all terms and conditions contained therein), or individual permit denial can be administratively appealed pursuant to 33 C.F.R. Part 331, and that in any administrative appeal, jurisdictional issues can be raised (see 33 C.F.R. 331.5(a)(2)). If, during that administrative appeal, it becomes necessary to make an official determination whether CWA jurisdiction exists over a site, or to provide an official delineation of jurisdictional waters on the site, the Corps will provide an approved JD to accomplish that result, as soon as is practicable. This preliminary JD finds that there "may be" waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:

SUPPORTING DATA. Data reviewed for preliminary JD (check all that apply) checked items should be included in case file and, where checked and requested, appropriately reference sources below):

- ☒ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant:
- ☒ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
 - ☐ Office concurs with data sheets/delineation report.
 - ☐ Office does not concur with data sheets/delineation report.
- ☐ Data sheets prepared by the Corps: .
- ☐ Corps navigable waters' study: .
- ☐ U.S. Geological Survey Hydrologic Atlas: .
 - ☐ USGS NHD data.
 - ☐ USGS 8 and 12 digit HUC maps.
- ☒ U.S. Geological Survey map(s). Cite scale & quad name: KY – Brooks and Sheherdsville
- ☒ USDA Natural Resources Conservation Service Soil Survey. Citation: Bing Maps Hybrid (2013) Soil Survey Geographic (SSURGO) database Jefferson County, Kentucky (2010)
- ☒ National wetlands inventory map(s). Cite name: NWI U.S. Fish and Wildlife Service, KY (2010).
- ☐ State/Local wetland inventory map(s): .
- ☒ FEMA/FIRM maps: FEMA Q3 Flood Data (2007)
- ☐ 100-year Floodplain Elevation is: (National Geodetic Vertical Datum of 1929)
- ☒ Photographs: ☒ Aerial (Name & Date): NAIP/FSA Kentucky Imagery (2010)
 - or ☒ Other (Name & Date): June 30, 2012; January 23, 2013.
- ☐ Previous determination(s). File no. and date of response letter:
- ☐ Other information (please specify): .

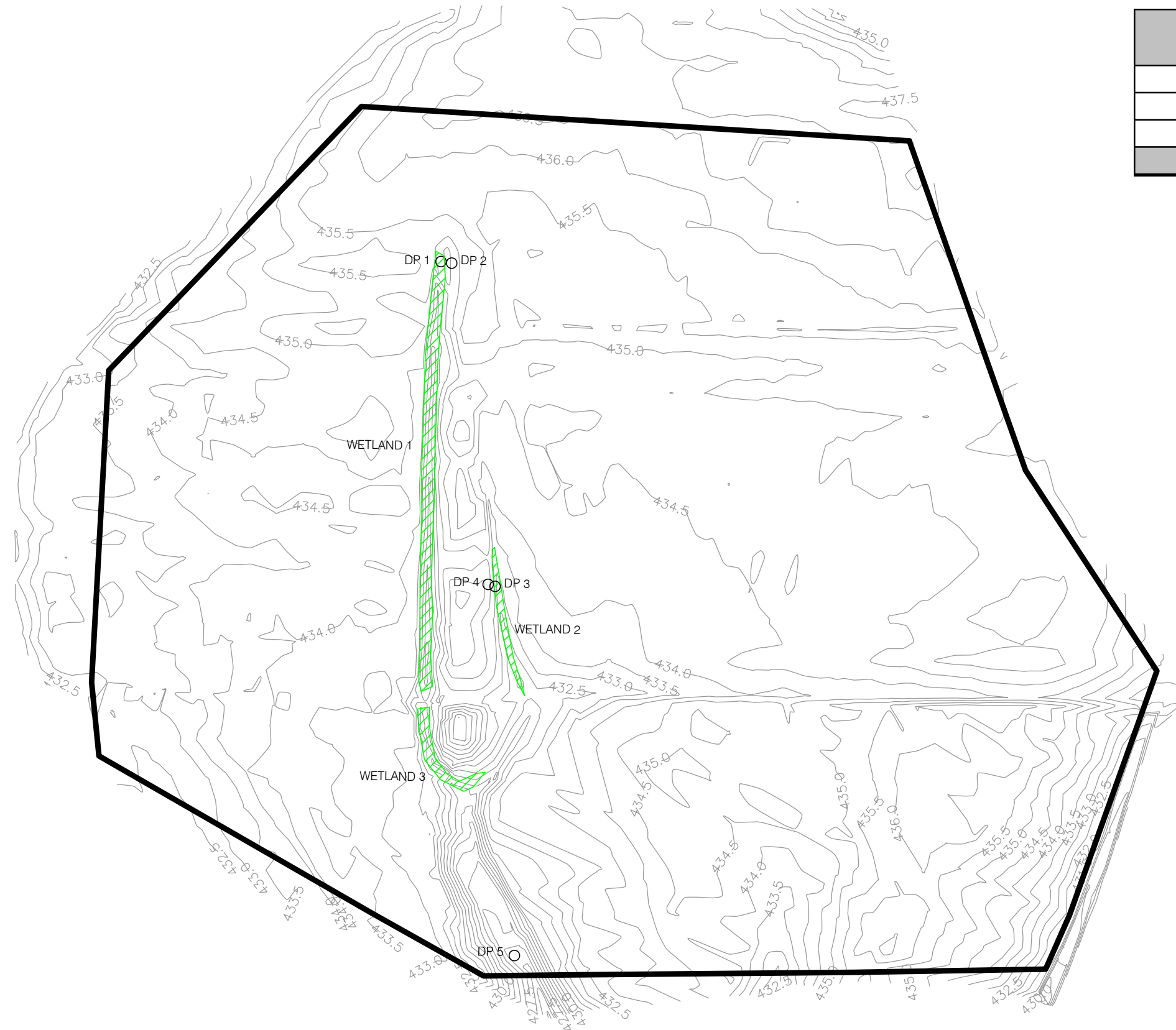
IMPORTANT NOTE: The information recorded on this form has not necessarily been verified by the Corps and should not be relied upon for later jurisdictional determinations.

Signature and date of
Regulatory Project Manager
(REQUIRED)

Signature and date of
person requesting preliminary JD
(REQUIRED, unless obtaining the signature is
impracticable)

Site number	Latitude	Longitude	Cowardin Class	Estimated amount of aquatic resource in review area	Class of aquatic resource
Wetland 1	37.992944°N	85.738056°W	PEM1	0.342 acre	Non Section 10
Wetland 2	37.991933°N	85.738843°W	PEM1	0.052 acre	Non Section 10
Wetland 3	37.991482°N	85.739928°W	PEM1	0.073 acre	Non Section 10

P:\2011 Projects\11-068-SaltRiverBank\Figures\PROSPECTUS\RW-water wetland , Water wetland, Eric Bowman, 7/10/2013 12:20 PM

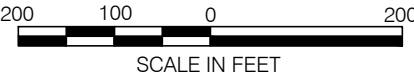


Feature	Area (acres)
Wetland 1	0.342
Wetland 2	0.052
Wetland 3	0.073
Wetland Total	0.467

LEGEND

- PROPOSED BANK SITE
- WETLAND
- DP1 DATA POINT

NOTE: JURISDICTIONAL WATER/WETLAND BOUNDARIES WERE DELINEATED AND SURVEYED USING GLOBAL POSITIONING SYSTEM EQUIPMENT BY REDWING WETLAND SCIENTISTS ON JANUARY 23, 2013. THESE BOUNDARIES HAVE NOT BEEN VERIFIED BY THE U.S. ARMY CORPS OF ENGINEERS. USE OF THIS MAP IS FOR PRELIMINARY PLANNING PURPOSES ONLY.



SOURCE: BASE MAP PROVIDED BY MINDEL, SCOTT AND ASSOCIATES, INC.

FIGURE PREPARED BY:



SALT RIVER MITIGATION BANK
BULLITT COUNTY, KENTUCKY

REVISED DATE: 07-10-2013 DRAWN BY: BJD/EDB

DELINEATION MAP

FIGURE C1

APPENDIX D

ADDITIONAL SOIL PROFILES

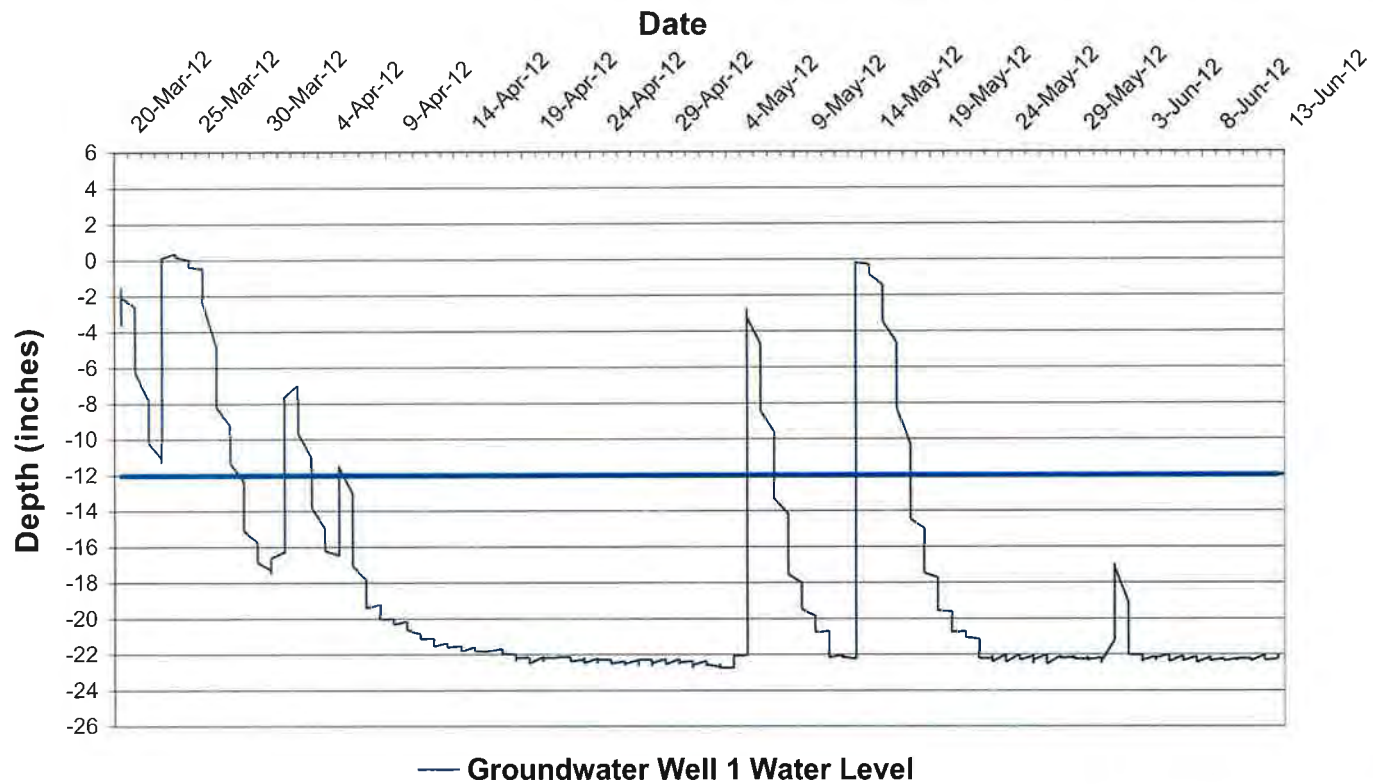
Soils Analysis Data
Salt River Mitigation Bank - Moore Site
Bullitt County, Kentucky

Soil Profile	Depth (in)	Matrix Color (Munsell Moist)	Mottles (Abundance, Size, Contrast)	Texture, Structure, Concretions, etc.	Remarks / Indicator*
SP-1	0-2	50% 10YR 4/3	45% 10YR 3/3	Silt Loam	Hydric / F3
			5% 7.5YR 4/6		
	2-6	90% 10YR 5/3	10% 7.5YR 4/6	Silty Clay Loam	
	6-15	60% 10YR 6/2	30% 10YR 5/2	Silty Clay Loam	
			10% 7.5YR 5/8		
SP-2	0-7	90% 10YR 5/3	10% 7.5YR 5/6	Silt Loam	Hydric / F3
	7-15	90% 10YR 6/2	5% 7.5YR 5/8	Silt Loam	
			5% 7.5YR 5/6		
SP-3	0-8	80% 10YR 6/2	15% 10YR 4/3	Silt Loam	Hydric / F3
			5% 10YR 6/8		
	8-14	90% 10YR 6/2	10% 5YR 4/6	Silty Clay Loam	
SP-4	0-6	85% 10YR 5/4	10% 10YR 5/3	Silt Loam	Borderline / F3
			5% 7.5YR 5/8		
	6-15	80% 10YR 5/3	10% 10YR 5/2	Silty Clay Loam	
			10% 7.5YR 4/6		
SP-5	0-6	95% 10YR 5/3	5% 7.5YR 4/6	Silt Loam	Hydric / F3
	6-15	95% 10YR 6/2	3% 7.5YR 5/8	Silty Clay Loam	
			2% 7.5YR 4/6		
SP-6	0-6	80% 10YR 5/4	15% 10YR 5/3	Silt Loam	Hydric / F3
			5% 10YR 5/6		
	6-10	95% 10YR 5/3	5% 7.5YR 4/6	Silt Loam	
	10-18	60% 10YR 6/2	30% 10YR 5/3	Silty Clay Loam	
10% 10YR 5/6					
SP-7	0-8	90% 10YR 5/3	10% 10YR 4/6	Silt Loam	Hydric / F3
	8-16	85% 10YR 6/2	10% 10YR 5/3	Silty Clay Loam	
			5% 10YR 5/8		
SP-8	0-8	90% 10YR 5/3	10% 10YR 5/8	Silt Loam	Borderline / F3
	8-15	80% 10YR 6/3	15% 10YR 6/2	Silty Clay Loam	
			5% 10YR 5/8		
SP-9	0-4	98% 10YR 4/4	2% 10YR 5/6	Silt Loam	Hydric / F3
	4-8	95% 10YR 5/3	5% 10YR 5/8	Silty Clay Loam	
	8-15	80% 10YR 6/2	15% 10YR 5/3	Silty Clay Loam	
			5% 10YR 5/8		
SP-10	0-6	98% 10YR 5/3	2% 10YR 5/6	Silt Loam	Hydric / F3
	6-15	90% 10YR 6/2	5% 10YR 4/6	Silty Clay Loam	
			5% 10YR 5/8		

*Indicator based upon the Regional Supplement to the Corps of Engineers Wetland Delineation Manual:
Eastern Mountains and Piedmont Region - Version 2.0 (April 2012)

APPENDIX E

MONITORING WELL DATA



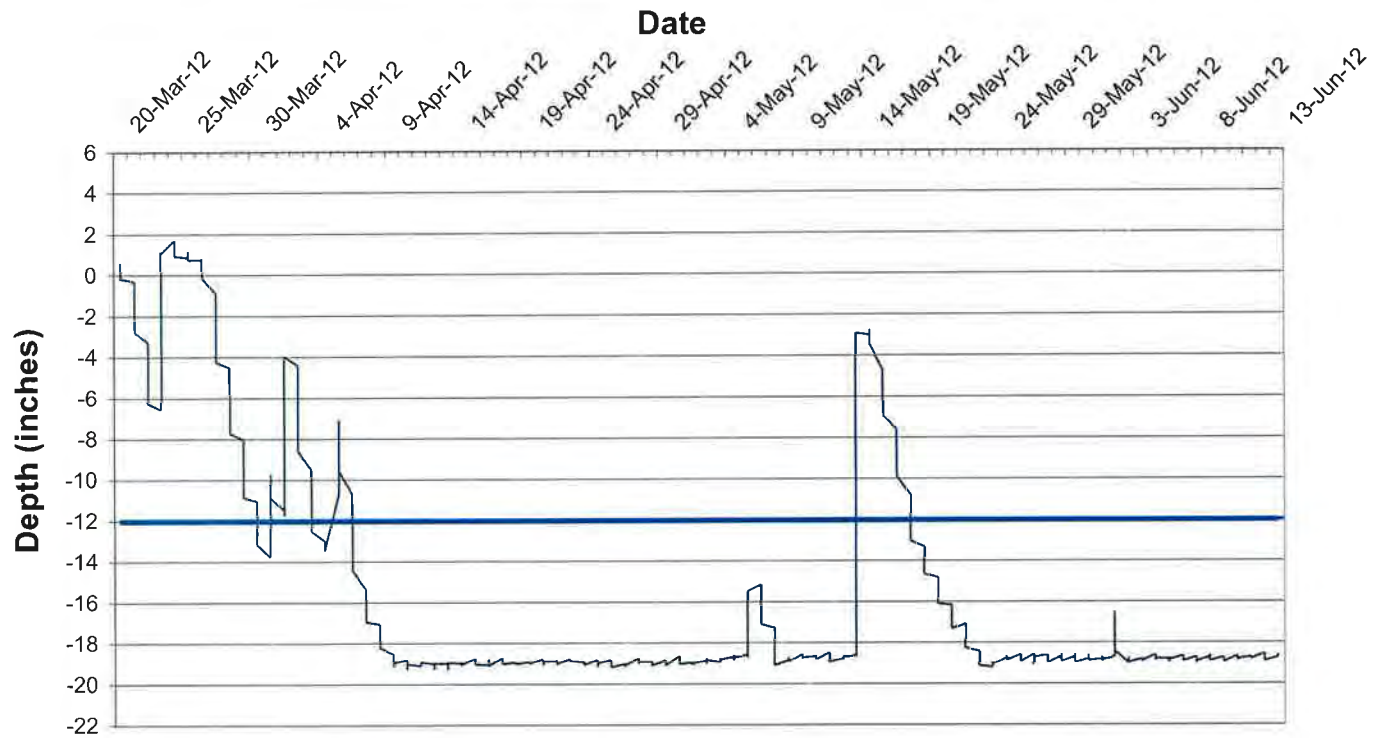
DATE	DURATION (days)
3/20-3/28	9
4/1-4/3	3
5/5-5/7	3
5/13-5/17	5

SALT RIVER MITIGATION BANK
JEFFERSON AND BULLITT COUNTIES,
KENTUCKY

REDWING PROJECT: 11-068



2012 GROUNDWATER LEVEL WELL 1
MOORE SITE



— Groundwater Well 2 Water Level

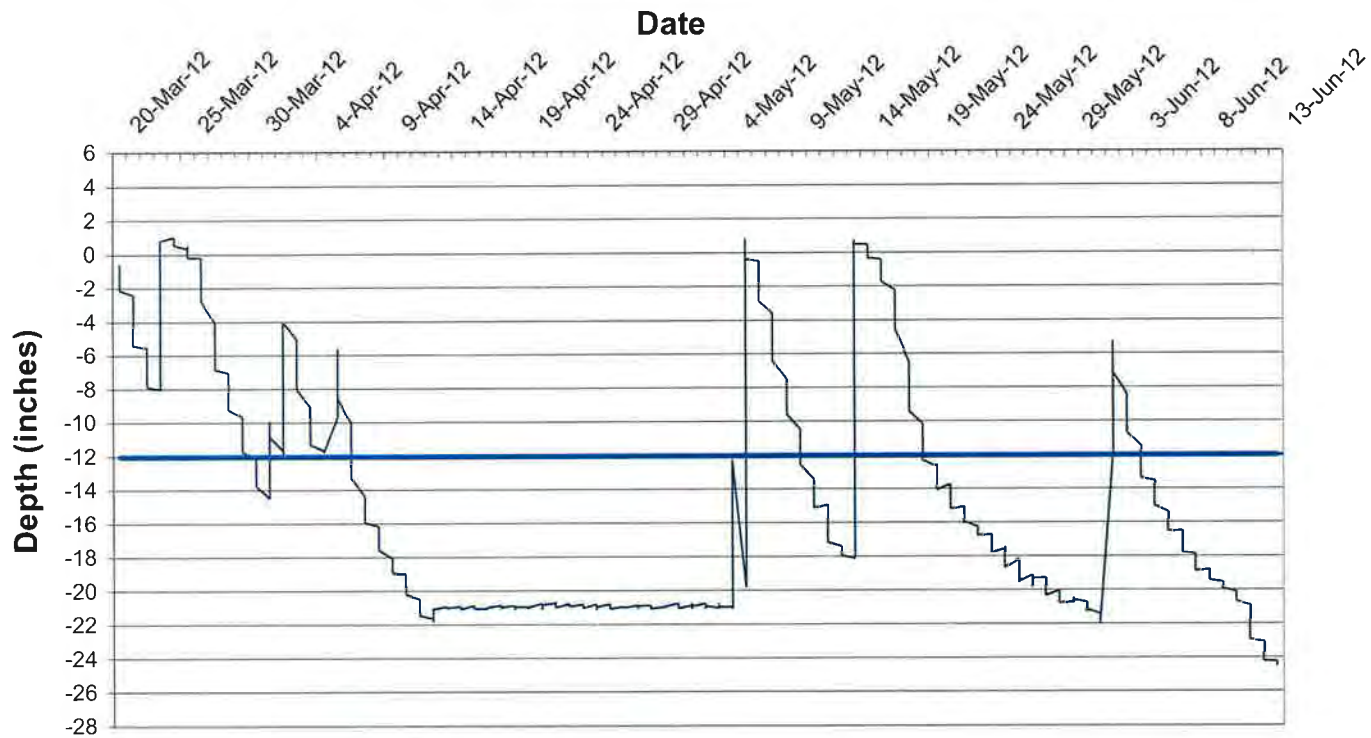
DATE	DURATION (days)
3/20-4/3	15
4/5-4/6	2
5/13-5/17	5

SALT RIVER MITIGATION BANK
JEFFERSON AND BULLITT COUNTIES,
KENTUCKY

REDWING PROJECT: 11-068



2012 GROUNDWATER LEVEL WELL 2
MOORE SITE



— Groundwater Well 3 Water Level

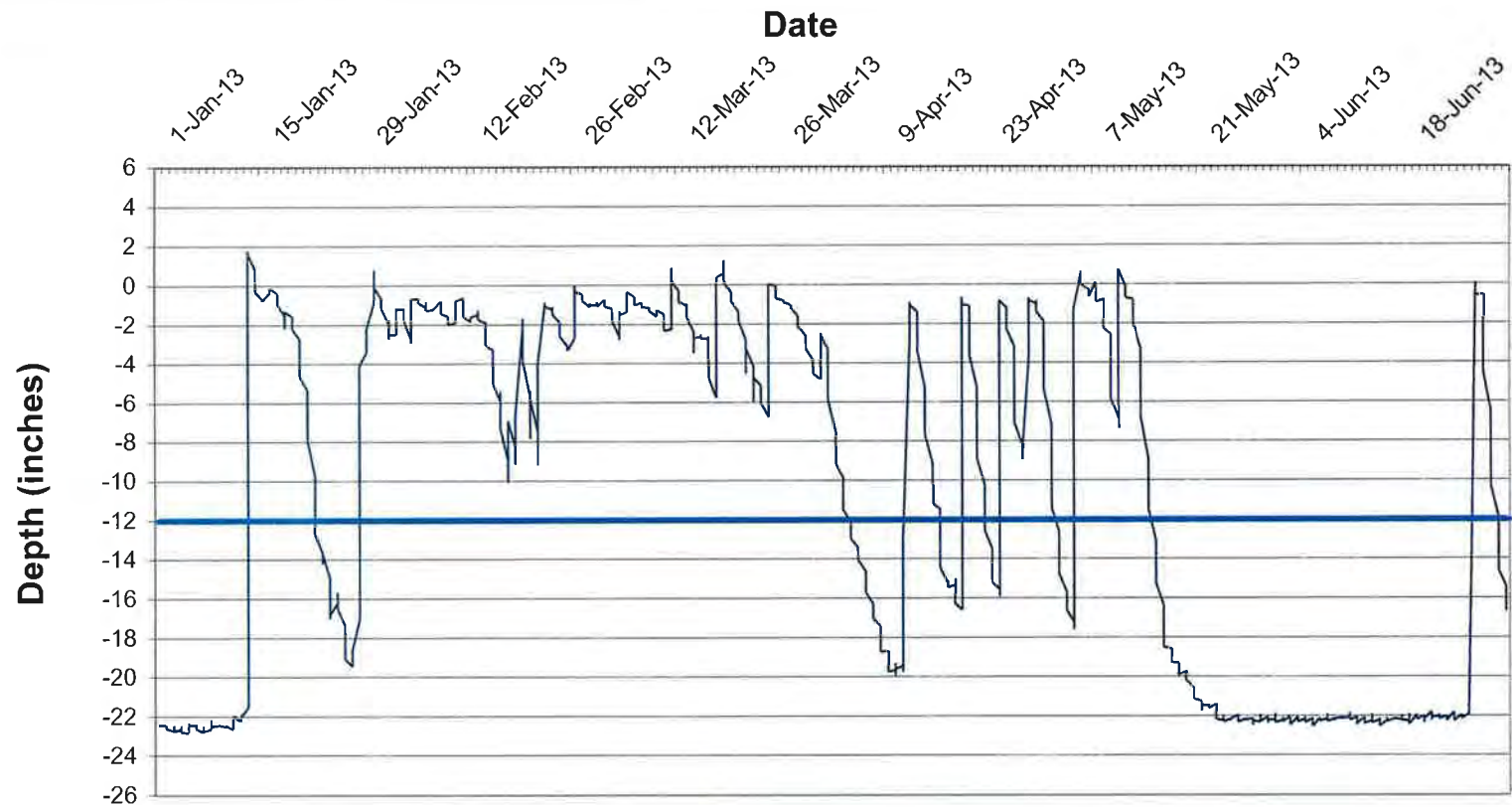
DATE	DURATION (days)
3/20-3/29	10
3/31-4/6	7
5/5-5/9	5
5/13-5/18	6
6/1-6/3	3

SALT RIVER MITIGATION BANK
JEFFERSON AND BULLITT COUNTIES,
KENTUCKY

REDWING PROJECT: 11-068



2012 GROUNDWATER LEVEL WELL 3
MOORE SITE



— Groundwater Well 1 Water Level

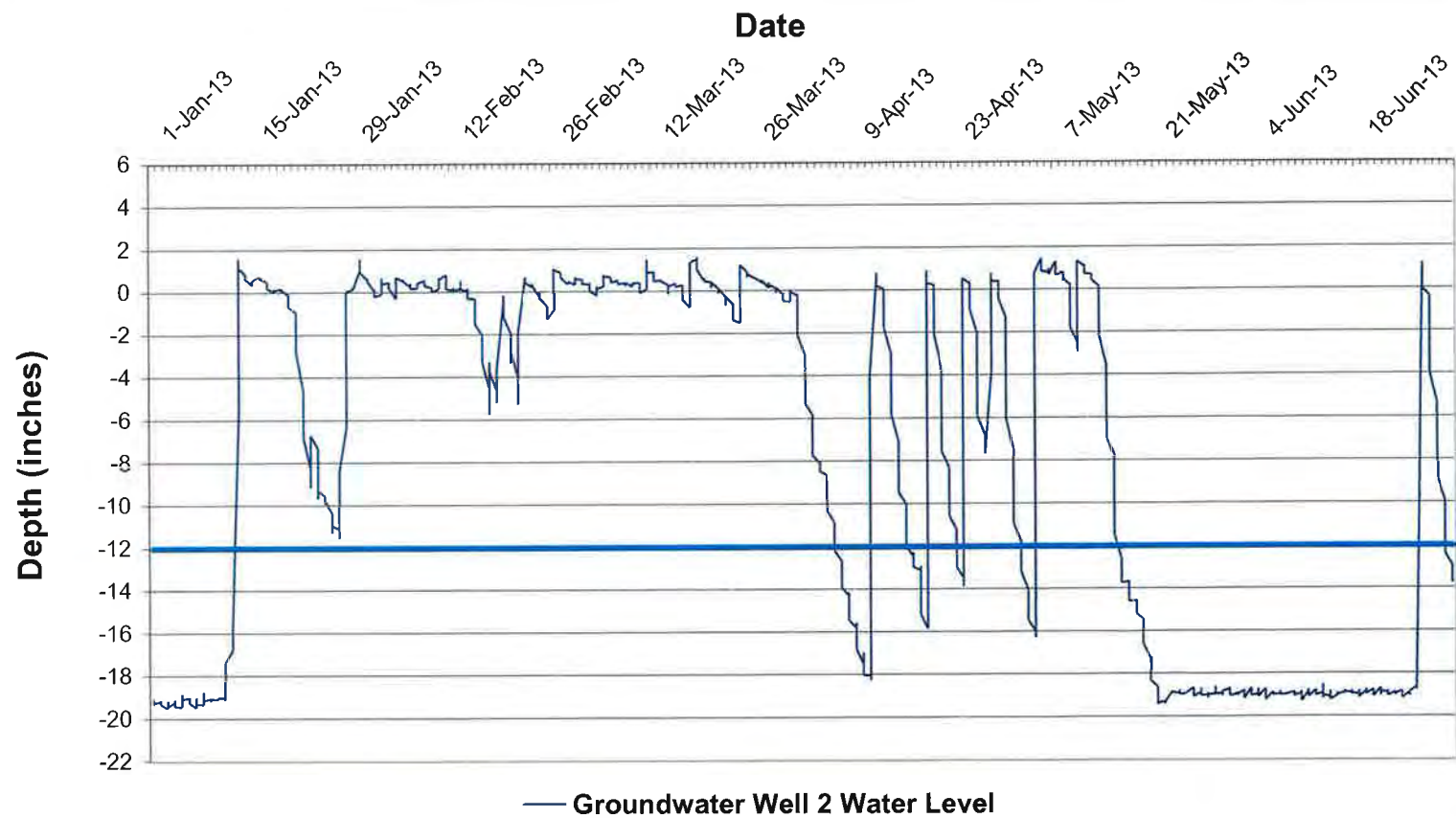
DATE	DURATION (days)	DATE	DURATION (days)
1/13-1/22	10	4/24-5/1	8
1/28-4/3	66	5/4-5/14	11
4/12-4/16	5	6/27-6/30	4
4/19-4/22	4		

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2013 GROUNDWATER LEVEL WELL 1
MOORE SITE



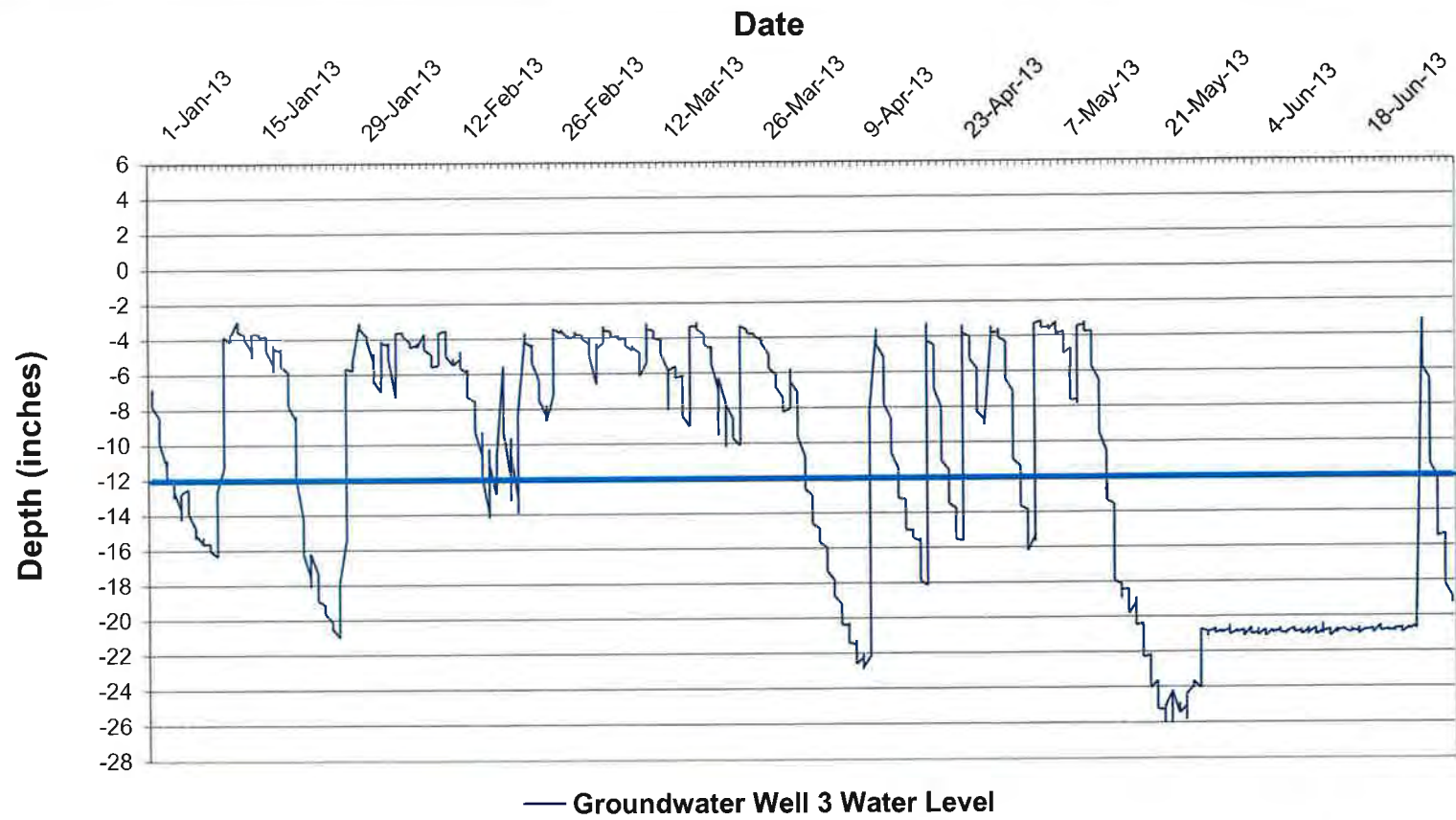
DATE	DURATION (days)
1/13-4/6	25
4/19-5/2	14
5/4-5/15	12
6/27-7/1	5

SALT RIVER MITIGATION BANK
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2013 GROUNDWATER LEVEL WELL 2
MOORE SITE



DATE	DURATION (days)	DATE	DURATION (days)
1/1-1/3	3	4/19-4/22	4
1/11-1/21	11	4/24-5/2	9
1/28-4/2	65	5/4-5/14	11
4/11-4/15	5	6/27-6/28	2

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2013 GROUNDWATER LEVEL WELL 3
MOORE SITE